

# 5th IEEE Conference on Cognitive Infocommunications

## Call for Papers

### CogInfoCom 2014

### Vietri sul Mare, Italy

5-7 November, 2014

<http://coginfocom.hu/conference/CogInfoCom14>



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#### Contact address

[coginfocom2014@sztaki.mta.hu](mailto:coginfocom2014@sztaki.mta.hu)

**Technical co-sponsor:** IEEE Italy Section

**Sponsors:** IEEE Hungary Section, IEEE SMC Chapter, Hungary, IEEE CI Chapter (Hungary), IEEE IES and RAS Chapters (Hungary)

**In scientific cooperation with:** Széchenyi István University, iSpace, ITM, MTA SZTAKI – 3DICC Lab, SUN, IIASS, IEA LSP, ARC, BME-TMIT

**In technical cooperation with:** LangTerra Project

#### Scope

CogInfoCom is a new interdisciplinary field of science defined as follows: Cognitive infocommunications (CogInfoCom) investigates the link between the research areas of infocommunications and cognitive sciences, as well as the various engineering applications which have emerged as the synergic combination of these sciences. The primary goal of CogInfoCom is to provide a systematic view of how cognitive processes can co-evolve with infocommunications devices so that the capabilities of the human brain may not only be extended through these devices, irrespective of geographical distance, but may also interact with the capabilities of any artificially cognitive system. This merging and extension of cognitive capabilities is targeted towards engineering applications in which artificial and/or natural cognitive systems are enabled to work together more effectively.

For more information on CogInfoCom please visit its official home-site at [www.coginfocom.hu](http://www.coginfocom.hu).

#### Contributions are expected from the following areas

**Socio-cognitive ICT** (including any approach that uses or influences collective knowledge)

**Embodied and enactive cognitive systems** (based on e.g. cognitive robotics and autonomous mental development)

**Cognitive biases in CogInfoCom:** how biases in human perception and high-level reasoning can be put to use in CogInfoCom systems

**Cognitive control:** control theoretical solutions based on or targeting cognitive and other human body related processes

**Industrial applications of CogInfoCom** (production engineering, production management etc.)

#### Ergonomics-based aspects of CogInfoCom

**CogInfoCom channels** (based on e.g. sensory substitution, sensorimotor extension)

**Speechability** (based on e.g. cognitive linguistics, verbal/non-verbal social communicative signals, speech technologies)

**Augmented interaction capabilities and augmented cognition** (based on e.g. multimodal interfaces and virtual avatars)

**Ethology-inspired engineering / Etho-robotics**

**Mathability:** modeling and understanding mathematical capabilities

#### Cognitive informatics and media

**Future Internet** (CogInfoCom aspects of e.g. Internet of Things, 3D Internet)

**Infocommunication-related aspects of the cognitive sciences**

**Intelligent vehicle and transportation systems** (based on e.g. enhanced driver awareness, advanced driver assistance systems)

**Augmented 3D capabilities** (based on e.g. 3D visualization and immersive augmented/virtual interaction)

**Interaction capabilities of CogInfoCom systems** (based on e.g. HCI, HMI and HRI)

**Human cognitive interfaces** (based on e.g. BCI, body area networks, virtual avatars)

Authors are encouraged to submit full papers describing original, previously unpublished, complete research, not currently under review by another conference or journal, addressing state-of-the-art research and developments. All papers will be reviewed and accepted papers will appear in the conference proceedings. Papers must be submitted electronically via EasyChair in IEEE format (double column A/4, 4-6 pages long).

Just like last year, publications of the 5<sup>th</sup> International Conference on Cognitive Infocommunications (CogInfoCom 2014) will be uploaded to the IEEE Xplore database upon consent of IEEE (in process). We reserve the right to exclude any paper from the final proceedings (as well as any official database), if it is not presented at the conference.

**Authors' Schedule** First submission: **21 July, 2014** / Notification of first review results: **25 August, 2014**

Preliminary data Final submission: **15 September, 2014**

**Journal Publications** Authors of selected best papers of the conference shall be invited to publish their previously unpublished research results in special issues of *international journals*.

**Track and Session Organizers** Those who would like to propose a track or session (a set of oral or DEMO presentations) in order to introduce the new scientific results of their fields or large scale international projects are warmly welcome. Please kindly note that the minimum number of sessions is 3 per track and 1 session is of 4 publications.

- Track I – Customizable Management of Cognitive Content – FIRST Project (András Hajdu, DE)  
Track II – Multimodal Communicative Signals: Behavioural and Algorithmic Issues - LangTERRA project (Anna Esposito, UNINA2/IIASS, Maria Koutsombogera, ILSP; Harris Papageorgiou, ILSP; Gennaro Cordasco, UNINA2/IIASS; Klara Vicsi, BME TMIT)  
Track III – Speech and multimodal interactions (Helen Meng, CUHK; Nick Campbell, TCD; Géza Németh, BME)  
Track IV – CogInfoCom aided engineering (Wei Deng Solvang, NUC)  
Track V – Socio-Cognitive ICT (Hassan Charaf, BME AUT)  
Track VI – NeuroCogSpace Project (Károly Herczegfi, BME; Ferenc Honbolygó, MTA TTK; Péter Galambos, MTA SZTAKI)

Special Session I - Theory and Applications of Fuzzy Cognitive Maps and Related Models (László T. Kóczy, SZE, Hungary)

Special Session II - Cognitive acasual representations (P. Várlaki, P. Baranyi)

#### Technical Program Committee Chair

Gyula Sallai, BME TMIT, Hungary

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# 5th IEEE Conference on Cognitive Infocommunications

## Call for Demonstration

~ A venue for science, future professionals and industry representatives to meet ~

### The 5<sup>th</sup> CogInfoCom 2014 organizing committee invites proposals for demonstrations to be given at the conference.

The demonstrations provide a forum for researchers as well as industry participants to demonstrate working systems, applications, tools or showcases of basic technologies to the conference attendees. The goal of the demonstrations is to showcase a spectrum of applications ranging from research prototypes to pilot solutions and even products that use cognitive infocommunications technology and provide functionality in the context of cognitive learning and information technology. For submissions to this event, it is very important to describe the demonstration setup, functionality and benefit to the viewer of the demonstration. Technical background discussion can be presented at the actual demonstration or can be submitted as an industry track or regular conference paper; the focus of the demonstrations themselves should be to show the functionality to viewers. Demonstrations are expected to be highly interactive.

### Topics for demonstrations include but are not limited to:

**Socio-cognitive ICT** (including any approach that uses or influences collective knowledge)

**Embodied and enactive cognitive systems** (based on e.g. cognitive robotics and autonomous mental development)

**Cognitive biases in CogInfoCom:** how biases in human perception and high-level reasoning can be put to use in CogInfoCom systems

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Demonstrations ideally showcase a system or application that clearly underlines the benefit of using and deploying cognitive infocommunications technologies. In addition, tools and basic technologies that implement or use cognitive infocommunications or cognitive infocommunications approaches are invited for demonstration. *Any devices or hardware/software developments which build on, take into account and/or enable interaction between various levels of natural/artificial cognitive capabilities are welcome!*

### Demonstration Setup

The demonstrations are planned to be a single event during the conference, open to all conference attendees, with the goal of open and constructive discussions. One table will be provided with power as well as Internet connection. Posters can be displayed behind or next to the tables (depending on the space) either on pin boards or the wall. Demonstrators must bring any additional equipment they require as no equipment will be provided by the conference.

### Demonstration Submissions

Authors submitting papers to the demonstrations must submit a 1/2-page paper that clearly outlines the demonstration that will be set up and the functionality a visitor to the demonstration can observe. The technical background, such as the architecture or algorithms, should not be described in detail; such a description would best be submitted to the industry track or main conference paper track. Including links to supporting material, e.g. a video on the web or a web-based demo itself, is highly encouraged. All submissions must follow the specific submission guidelines on the COGINFOCOM2014 web page. The accepted demonstration submissions will be included in the conference proceedings.

**Please kindly indicate the intention of your DEMO participation via e-mail at your earliest convenience in order to help the organization of the event. Please include "[COGINFOCOM2014-DEMO]" in the subject of your emails and send them to [coginfocom2014@sztaki.mta.hu](mailto:coginfocom2014@sztaki.mta.hu).**

### Important Dates

Demo Submission: 21 July, 2014  
Notification: 25 August, 2014  
Final submission: 15 September, 2014

**Conference: 5-7 November, 2014 in Vietri sul Mare, Italy**

### Submissions

Researchers and practitioners are invited to submit demo proposals to the demo co-chairs: to be decided

### Note:

Every demo paper accepted for publication in the Proceedings of 5<sup>th</sup> Int'l CogInfoCom 2014 MUST be presented during the conference.



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