

**22<sup>nd</sup> Italian Workshop on Neural Networks (WIRN 2012)**  
**May 17 - 19, 2012, Vietri sul Mare, Salerno, Italy**  
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*Special Session WIRN2012*  
*Call for papers*

## **Computational Intelligence in Emotional or Affective Systems**

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### I. THEME AND SCOPE OF THE SESSION

Computational Intelligence (CI) methods have shown great capabilities in modelling, prediction, and recognition tasks in digital signal processing and a mature degree of understanding has been achieved in many application areas, in particular in complex multimodal systems supporting human-machine or human-human interaction, a field that is broadly addressed by the scientific communities and has a strong commercial impact.

At the same time, the emotional issue has recently gained increasing attention in such complex systems due to its relevance in most common human tasks (like cognitive processes, perception, learning, communication and even "rational" decision-making) and therefore is highly relevant for the goal of human-like interaction with machines. The real challenge is taking advantage of the emotional characterization of humans to make the computer interfacing with them more natural and therefore useful.

The scope of this session is to assess to what extent and how sophisticated computational intelligence tools developed so far might support the multidisciplinary research on the characterization of and appropriate system reaction to human emotions and expression in interactive scenarios. Scientists working in the field are welcome to provide their contributions on the most recent trends, innovative approaches and future challenges. The session organizers believe to find in WIRN2012 a fruitful scientific scenario to deepen such issues.

## II. TOPICS

Topics of the session include but are not limited to:

- Analysis and Identification of Human Emotional States
- Application Oriented Redefinition of "Emotions"
- Computational Architectures for Affective Systems
- Supervised and Unsupervised Learning Algorithms in Affective Systems
- Emotional Human-Machine Interaction
- Emotion Oriented Learning in Collaborative Knowledge Building ;

WIRN 2012 is sponsored by the *Italian Society of Neural Networks (SIREN)*\* in co-operation with the *International Institute for Advanced Scientific Studies (IIASS)*\*, (Italy).

- Contributions must be sent, no later than **March 15 2012** to:
  - [s.squartini@univpm.it](mailto:s.squartini@univpm.it), and to [iiass.annaesp@tin.it](mailto:iiass.annaesp@tin.it), phone/fax: +39 071 220 4381/4453 (ask for automatic confirmation of the reception);
- Notification of Acceptance: **April 20 2012**;
- Camera-ready copy: on site, **May 17 2012**;
- Accepted papers will be published on **IOS Press** Books Online, **Frontiers in Artificial Intelligence and Applications**  
<http://www.booksonline.iospress.nl/Content/View.aspx?piid=19143>;
- The registration fee is **200 euros** and include the social dinner (registration can be done on-site in cash or through bank transfer (send an e-mail to Miss Tina Nappi [iiass.segreteria@tin.it](mailto:iiass.segreteria@tin.it) for bank coordinates).
- The maximum length of the full papers for contributors is 8 pages. Information on the paper format are on:  
<http://www.associazionesiren.org/initiatives/default.asp?sez=wirn10&page=infowirn11>;  
\* <http://www.associazionesiren.org/home/default.asp>  
\*\*<http://www.iiassvietri.it/>

## III. INVITED SPEAKERS

**Prof. Günther Palm**, [guenther.palm@uni-ulm.de](mailto:guenther.palm@uni-ulm.de)

University of Ulm, Institute of Neural Information Processing, 89069 Ulm, Germany

*Talk:* Towards a Redefinition of Emotions in Human Computer Interaction

*Abstract:* TBA

**Prof. Alessandro Vinciarelli**, [Alessandro.Vinciarelli@glasgow.ac.uk](mailto:Alessandro.Vinciarelli@glasgow.ac.uk)

University of Glasgow, Department of Computing Science, Glasgow, UK

*Talk:* Automatic Detection of Conflict in Social Interactions

*Abstract:*

Conflict is a mode of interaction that takes place whenever interacting agents do not share a common goal, but pursue individual goals, possibly incompatible with one another. The main subjects of conflict are typically finite resources or attitude differences with respect to an issue of interest. In both cases, conflicts might result into attempts of damaging or limiting the opportunities of others, with potentially disruptive effects on the life of any group where conflict takes place. This presentation shows how conflicts can be automatically detected in social interactions using an approach inspired by Social Signal Processing, i.e. by automatically understanding nonverbal behavioural cues that we typically display

during conflictual interactions. Special attention will be paid to data collection methodologies aimed at the integration of conflict psychology findings into automatic approaches.

*Günther Palm Short Bio:* Günther Palm was born in 1949. He studied mathematics at the Universities of Hamburg and Tübingen. After his graduation in mathematics (master in 1974, Ph.D. in 1975) he worked at the Max-Planck-Institute for Biological Cybernetics in Tübingen on the topics of nonlinear systems, associative memory and brain theory. In 1983/84 he was a fellow at the Wissenschaftskolleg in Berlin. During spring-term 1987 he was research professor at the Technical University of Darmstadt. From 1988 to 1991 he was professor for theoretical brain research at the University of Düsseldorf. Since then he is professor for computer science and head of the Department of Neural Information Processing at the University of Ulm. From January 1997 to June 2000, he was the chairman of the Collaborative Research Center 527 on "Integration of symbolic and subsymbolic information processing in adaptive sensorimotor systems". From October 2000 to November 2002 he was dean of the School of Computer Science at the University of Ulm. He is working on information theory, pattern recognition, neural networks, brain models, associative memory and Hebbian cell assemblies.

*Alessandro Vinciarelli Short Bio:* Alessandro Vinciarelli is Lecturer with the University of Glasgow (U.K), and Senior Researcher with the Idiap Research Institute (Switzerland). His main research interest is Social Signal Processing, the new domain aimed at bringing social intelligence in computers. He is coordinator of the FP7 Network of Excellence SSPNet and is, or has been, Principal Investigator of several national and international projects. He has authored and coauthored more than 70 publications, including one book and more than 20 journal papers. He has initiated and organized several international workshops, including the International Workshop on Socially Intelligent Surveillance and Monitoring and the International Workshop on Social Signal Processing. He is co-chair of the IEEE Technical Committee on SSP and is an associate editor of the IEEE SIGNAL PROCESSING MAGAZINE for the social sciences. Furthermore, he is founder of a knowledge management company (Klewel) recognized with several national and international prizes.