



*SSPNet is a European Network of Excellence fostering and supporting research activities in Social Signal Processing, the new, emerging domain aimed at bringing Social Intelligence in computers.*

[www.sspnet.eu](http://www.sspnet.eu)

## Opening to other communities

Social Signal Processing can play a role in many different areas and the SSPNet is doing a major effort in establishing contacts with the research communities most likely to benefit from the contact with our project.

This is the goal of a large number of scientific events planned for the second part of 2010. The first three important events will take place in less than one month, in conjunction with the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), one of the most prestigious conferences in the whole computing community. The SSPNet will be present with three initiatives, the Workshop on CVPR for Human Behaviour, the Workshop on Use of Context in Video Processing, and the Workshop on Socially Intelligent Surveillance and Monitoring. As computer vision is one of the most important technological components in SSP, especially when it comes to the extraction of important behavioural cues such as facial expressions, gestures, postures, etc., the presence at CVPR is important to raise awareness and attract vision researchers to our domain.

In a similar vein, the SSPNet organises the Workshop on Social Signal Processing at the ACM Conference on Multimedia, the Symposium on Affective Signals at Measuring Behaviour, the Special Session on Social Signals in Speech at Interspeech and the Workshop on Mobile Social Signal Processing at Mobile HCI. For each of these events, the SSPNet meets a different community where the potential for collaboration is high and the opportunities for cross-pollination exciting. Last, but not least, the SSPNet organises a workshop on Political Speech in Rome, a good opportunity to explore a wide range of themes, from deception to persuasion, from dominance to status display and, why not, from spaghetti to espresso.

Information for participation in all of the events is available on the SSPNet portal ([www.sspnet.eu](http://www.sspnet.eu)) as well as on the sites of the conferences where the events are organised. We hope to meet you all in one or more of the Workshops!

- **Alessandro Vinciarelli**  
(Coordinator, University of Glasgow/Idiap Research Institute)  
&  
**Maja Pantic**  
(Scientific Coordinator, Imperial College/University of Twente)

## SSPNet supports the Third International IEEE CVPR4HB Workshop (CPVR4HB'10)

It is our great pleasure to organize the Third IEEE International Workshop on Computer Vision and Pattern Recognition for Human Communicative Behavior Analysis (CVPR4HB'10). The workshop will be held on the 18th of June 2010 in San Francisco, California, US, in conjunction with the IEEE International Conference on Computer Vision and Pattern Recognition 2010 (CVPR'10). The workshop series is the premier forum for presenting research in machine analysis of human communicative behavior, including affective and social signaling.

Addressing the problems in machine analysis of naturally occurring human communicative behavior is of utmost importance for research on next-generation computing, which encompasses ambient intelligence, smart environments, and perceptual interfaces. This is why the theme of CVPR4HB workshop represents a hot topic in computer vision and pattern recognition field. To wit, machine analysis of human-human and human-machine interaction (HCI) is progressing rapidly with new or pending applications in psychology, biomedicine, HCI, and entertainment technology, among other fields. With these advances come new conceptual and methodological challenges.

The workshop program includes oral papers, posters, and invited presentations. For the workshop, we received a total of 36 papers for review. Each of these was assessed by at least two reviewers, with a large majority of papers being assessed by three reviewers; 8 submissions were selected for oral presentation and 6 submissions for poster presentation, an acceptance rate of just around 40% (22% for oral presentation papers). These papers will be accompanied by 3 invited presentations, by Yiannis Aloimonos (University of Maryland, US); Bjoern Schuller (Technical University of Munich, Germany), and Lijun Yin (Birmingham University, US). The oral presentations, posters, and invited addresses bring together related communities to share the latest findings and ideas and pursue continuing and new collaborations in research on machine analysis of human communicative behavior.

Many people helped make this workshop a reality. We are grateful to the efforts of them all. In particular we are grateful to the Program Committee members that completed the reviewing process in very short time allocated for the reviews (the complete list of PC members can be found at the workshop website: <http://www.doc.ic.ac.uk/~maja/cvpr4hb-10.html>).

By papers, location, and content, this promises to be an excellent edition of the CVPR4HB workshop series. The workshop continues to provide a leading forum for cutting-edge research in video-based, audiovisual, and multimodal analysis of human communicative behavior, including affective states, social signals, sign language, and interactive behavior in HCI scenarios. We wish all delegates a most enjoyable and productive workshop.

Organizers: **Maja Pantic (Imperial College London/University of Twente)**  
 Jeffrey Cohn (University of Pittsburgh/Carnegie Mellon University)  
 Matthew Turk (University of California at Santa Barbara)  
 Thomas S. Huang (University of Illinois at Urbana-Champaign)

## SSPNet introduces... Marcela@DFKI

The speech group at DFKI Language Technology lab is investigating the correlation between certain percepts and voice quality and prosodic acoustic features in view of speech synthesis. In several works prosodic and voice quality features have been used for detection and classification of social signals like certainty, dominance, stress, agreement, but not for interpretation in view of speech synthesis. A methodology to investigate possible prosody and voice quality correlates of vocal social signals has been developed at DFKI. Using this methodology interesting correlations for dominance in the AMI corpus have been found. The analysis so far has been mainly concentrated on the speech signal processing side, so it is expected that the collaboration with psychologists will be beneficial for the high level interpretation of effects. The DFKI team is at the moment collaborating with Paul M. Brunet and Roderick Cowie at the School of Psychology, Queen's University of Belfast on the analysis of politeness on their recently recorded database of a cooperative time-sensitive task; and Marcela Charfuelan from DFKI will visit University of Geneva to work with Marc Mehu on the interpretation, from a psychological point of view, of salient/representative vocal effects in particular social signals like dominance or agreement/disagreement.

- Marcela Charfuelan, DFKI

## New SSP-related project: Social Interaction and Entrainment using Music Performance Experimentation - the SIEMPRE project

SIEMPRE develops research theoretical and methodological frameworks, computational models, and algorithms for the analysis of non-verbal creative communication within groups of people, important also for future ICT (e.g. social media, on-line and mobile communities, web 2.0). The focus is on ensemble musical performance and audience experience, an ideal testbed for the development of models and techniques for measuring creative social interaction in ecological framework. We focus on entrainment, emotional contagion, co-creation, each studied at two levels – between performers, between performer and audience - both during explicit communication process (e.g., between orchestra conductor and musicians) and during implicit synchronization in emotionally intense experiences (joint music performance; audience live experience). The methodological framework will enable novel approaches to research challenges, including the integration in research teams of outstanding artists. Expressive Movement, Audio, Physiological (eMAP) multi-layer multimodal features will be extracted from participants using real-time, synchronized, multi-modal feature extraction techniques, and will be the inputs for theoretical and computational models. Major challenges and objectives include the following: key factors driving interpersonal synchronization of participants; identification of specific roles inside groups (e.g., leadership, hierarchy, saliency); general principles concerning influence of individuals over others; factors that determine feelings of group cohesion or a sense of shared meaning; how eMAPs confirm the validity of reports by participants; how social context affects individual intrapersonal synchronization of eMAP and vice-versa; how emotion of the individual affects the collaborative creative product; neurophysiological foundations of creative group non-verbal social behavior. A publicly available annotated database of behavioral data will be created and made freely available to the community of researchers.

*(EU ICT FET – Future and Emergent Technologies, STREP 3-year Project, 2010-2012*

*Partners: Casa Paganini – InfoMus, DIST, Università degli Studi di Genova ([www.casapaganini.org](http://www.casapaganini.org)), Coordinator SARC-Queens University of Belfast, Dept of Psychology-University of Geneva, MTG-Pompeu Fabra University, Italian Institute of Technology)*

**- Antonio Camurri, InfoMus Lab, University of Genova**



*Experiment at the research centre of Casa Paganini with the famous Quartetto di Cremona*

### News, Jobs, and Announcements from SSPNet partners

◆ **Marc Mehu (University of Geneva)** is organizing a symposium on the automatic analysis of nonverbal behaviour at the 20th biennial conference of the International Society for Human

Ethology that will take place in Madison (WI) from the 1st to 5th of August 2010. Participants to the symposium are: Marc Mehu (University of Geneva), Karl Grammer (University of Vienna), Daniel Messinger (University of Miami), and Dirk Heylen (University of Twente).

◆ LISTA, the Listening Talker, is a new FET-Open project which will investigate how listeners modify their production patterns in realistic environments that are characterized by noise and natural, rapid interactions. By listening while talking, speakers can reduce the impact of noise and reverberation at the ears of their interlocutor. And by talking while listening, speakers can indicate understanding, agreement and a range of other signals that make natural dialogs fluid and not the sequence of monologues that characterize current human-computer interaction. Both noise and natural interactions demand rapid adjustments, including shifts in spectral balance, pauses, expansion of the vowel space, and changes in speech rate. The goal of LISTA is to obtain a deeper understanding of human context-sensitivity in speech production and to translate some of these findings to synthetic, live and recorded speech. LISTA is a multidisciplinary project that has just started (May 2010) involving the **University of Edinburgh**, the University of the Basque Country, KTH (Stockholm) and ICS (Crete).

<http://listening-talker.org/>

◆ **Call for Papers International Workshop on Political Speech:**

<http://sspnet.eu/2010/05/political-speech-il-parlo-politico/>

◆ **Dr. Antonis Oikonomopoulos** has started working at **Imperial College London** as a Research Associate on WP8 since the 1st of April 2010.

◆ **Konstantinos Bousmalis (Imperial College London)** is visiting Louis-Philippe Morency at the Multimodal Communication and Computation Laboratory, University of Southern California. During his three months stay he will collaborate on human behaviour analysis research.

◆ **Job announcement University of Glasgow:** a PhD position is available at the University of Glasgow to work on a collaboration with Nokia. The goal of the collaboration is to investigate the analysis of social signals in mobile phone conversations using both speech and haptic behaviour. Interested candidates, please contact Alessandro Vinciarelli ([vincia@dcs.gla.ac.uk](mailto:vincia@dcs.gla.ac.uk))

◆ **Job announcements Imperial College London:**

(1) We have an RA opening on the SSPNet project: 1 x EC FP7 sponsored Postdoctoral (or PhD) Research Associate (Assistant) in Automatic Analysis of Human Social Signals (Ref: SSP03 0610).

(2) We have an RA opening on the MAHNOB project: 1 x ERC sponsored Postdoctoral (or PhD) Research Associate (Assistant) in Automatic Audiovisual Analysis of Naturalistic Behaviour (Ref: MAH7 MP0610).

(3) We have 2 Scientific Programmer openings on the MAHNOB project: 2 x ERC sponsored Scientific Programmer in Development and Optimisation of tools for Automatic Audiovisual Analysis of Naturalistic Behaviour (Ref: MAH8 MP0610). Applications for RA positions are invited for a full time Postdoctoral Research Associate OR a PhD Research Assistant position to undertake research within the context of EC-funded projects, starting from October 2010. Applications for Scientific Programmer positions are invited for a full time OR part-time positions. Further details on these positions and how to apply can be found at

<http://www3.imperial.ac.uk/computing/situations-v-acant>

## Selected publications

◆ Laurens van der Maaten and Emile Hendriks (2010). "Capturing Appearance Variation in Active Appearance Models", in *CVPR4HB 2010*.

◆ David Tax and Michel Valstar (2010). "The detection of concept frames using Clustering Multi-Instance Learning", in *ICPR 2010*.

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