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*IEEE Transactions on Affective Computing*

Special Issue/Section on Laughter Computing: towards machines able to deal with laughter

GUEST EDITORS:
- M. Mancini, DIBRIS, University of Genoa (Italy), maurizio.mancini@unige.it
- R. Niewiadomsky, DIBRIS, University of Genoa (Italy), radoslaw.niewiadomski@dibris.unige.it
- S. Hashimoto, SHALAB, Dept. of Applied Physics, Waseda University (Japan), shuji@waseda.jp
- Mary Ellen Foster, School of Computing Science, University of Glasgow (Scotland, UK), maryellen.foster@glasgow.ac.uk
- Stefan Scherer, Institute for Creative Technologies, University of Southern California (USA), scherer@ict.usc.edu
- Gualtiero Volpe, DIBRIS, University of Genoa (Italy), gualtiero.volpe@unige.it

**TOPIC SUMMARY:**

Laughter is a significant feature of human-human communication. It conveys various meanings and accompanies different emotions, such as amusement, relief, irony, or embarrassment. It has strong social dimensions: e.g., it can reduce the sense of threat in a group and facilitate sociability and cooperation. It also may have positive effects on learning, creativity, health, and well-being. Because of its relevance in human-human communication, research on laughter deserves important attention from the Affective Computing community. Several recent initiatives, such as the Special Session on Laughter at the 6th International Conference on Affective Computing and Intelligent Interaction (ACII2015) and the series of Interdisciplinary Workshops on Laughter and other Non-Verbal Vocalizations in Speech, witness the importance of the topic. Recent research projects focused on laughter by investigating automatic laughter processing, and by developing proof-of-concepts, experiments, and prototypes exploiting laughter for enhancing human-computer interaction.

Most research questions, however, are still unanswered. These address, for example, theoretical issues (e.g., how can laughter be modelled and analyzed as a multimodal phenomenon, including non-verbal full-body expression? Which is the relation between different expressions of laughter, their perceived meanings and their social functions?), analysis (e.g., to what extent is multimodal analysis of laughter in complex social scenarios feasible and effective?), and synthesis techniques (e.g., can speech laughter be synthesized effectively?). Overcoming the lack of HCI/HRI/HHI applications that exploit the positive (as well as a critical analysis of negative) effects of laughter is also of high interest. The issue of acceptability of laughing machines, either virtual agent or robot, needs to be addressed as well.

The goal of this special issue is to gather recent achievements in laughter computing in order to trigger new research directions in this field. The interest is on computational models that deal
with laughter in human-computer and human-human interaction. Laughter is characterized by a complex expressive behavior that includes major expressive modalities: auditory, facial expressions, body movements and postural attitudes, and physiological signals. This special issue aims at taking into account the multimodal nature of laughter and its variety of contexts and meanings, and providing an interdisciplinary perspective of ongoing scientific research and ICT developments. Topics of interest include but are not limited to:

- Multimodal laughter detection and synthesis
- Computational models of laughter mimicry and contagion
- Multimodal datasets of different laughter types in both controlled and ecological context
- Laughter analysis in human-human communication
- Individual differences in the expression of laughter
- Modelling of different communicative meanings of laughter
- Laughter-based applications in HCI/HRI/HHI and future user-centric media
- Acceptability of laughter in HCI/HRI applications
- Laughter elicitation mechanisms (e.g., "computational humour", KANSEI)
- Laughter as an expression of different emotions (e.g., amusement, embarrassment, relief, and so on)

**IMPORTANT DATES:**

Open for submissions in ScholarOne Manuscripts: **---**
Closed for submissions: June 24, 2016
Results of first round of reviews: September 16, 2016
Submission of revised manuscripts: October 14, 2016
Results of second round of reviews: November 11, 2016
Publication materials due: December 9, 2016

**SUBMISSION GUIDELINES:**

Prospective authors are invited to submit their manuscripts electronically after the “open for submissions” date, adhering to the IEEE Transactions on Affective Computing guidelines (http://www.computer.org/web/tac/author). Please submit your papers through the online system (https://mc.manuscriptcentral.com/taffc-cs) and be sure to select the special issue or special section name. Manuscripts should not be published or currently submitted for publication elsewhere. Please submit only full papers intended for review, not abstracts, to the ScholarOne portal. If requested, abstracts should be sent by e-mail to the Guest Editors directly.