



The 2nd Workshop on
Child, Computer and Interaction
(ICMI'09 post-conference workshop)
Cambridge, MA, USA, November 5, 2009

An event supported
by



Welcome!

The Workshop on Child, Computer and Interaction will be held in Cambridge, Boston area, on November 5, 2009. The Workshop is a satellite event of the Eleventh International Conference on Multimodal Interfaces, this year jointly with Machine Learning multi-modal interaction ([ICMI-MLMI 2009](#)) that will take place in the same venue on November 2-4, 2009. This edition follows the first edition of the Wocci series which was held in Crete in October 2008.

This Workshop aims at bringing together researchers and practitioners from universities and industry working in all aspects of multimodal child-machine interaction with particular emphasis on, but not limited to, speech interactive interfaces.

Children are special both at the acoustic/linguistic level but also at the interaction level. The Workshop provides a unique opportunity for bringing together different research communities to demonstrate various state-of-the-art components that can make up the next generation of child centred computer interaction. These technological advances are increasingly necessary in a world where education and health pose growing challenges to the core wellbeing of our societies. Noticeable examples are remedial treatments for children with or without disabilities, and first and second language learning. The Workshop should serve for presenting recent advancements in all core technologies for multimodal child-machine interaction as well as experimental systems and prototypes. Interaction

Call for Papers

Papers are solicited on any technical areas relevant to the Workshop. The technical scope of the Workshop includes, but it is not limited to:

- **Speech Interfaces:** acoustic and linguistic analysis of children's speech, discourse analysis of spoken language in child-machine interaction, age-dependent characteristics of spoken language, automatic speech recognition for children and spoken dialogue systems
- **Multi-modality and Robotics:** multi-modal child-machine interaction, multi-modal input and output interfaces, including robotic interfaces, intrusive, non-intrusive devices for environmental data processing, pen or gesture/visual interfaces
- **User Modelling:** user modelling and adaptation, usability studies accounting for age preferences in child-machine interaction
- **Cognitive Models:** internal learning models, personality types, user-centred and participatory design
- **Application Areas:** training systems, educational software, gaming interfaces, medical conditions and diagnostic tools.

The technical committee will select papers for oral/poster-presentation. All the accepted papers will be included in a CDROM with proceedings of the Workshop and published by ACM. The official language of the Workshop is English. Demos are especially welcome.

People

Organizing Committee:

Kay Berkling, Inline GmbH, Germany

Diego Giuliani, Fondazione Bruno Kessler, Italy

Shrikanth Narayanan, University of Southern California, USA

Program Committee:

Kay Berkling, Inline GmbH, Germany

Diego Giuliani, Fondazione Bruno Kessler, Italy

Shrikanth Narayanan, University of Southern California, USA

Alex Potamianos, Technical University of Crete, Greece

Elmar Noeth, University of Erlangen, Germany

Martin Russell, University of Birmingham, UK

Hirromichi Kawanami, Nara Institute of Science and Technology, Japan

Justine Cassell, Northwestern University, USA

John Hansen, University of Texas, USA

Abeer Alwan, University of California LA, USA

Bryan Pellom, Rosetta Stone Inc, USA

Matteo Gerosa, Fondazione Bruno Kessler, Italy

Serdar Yildirim, Mustafa Kemal University, Turkey

Stefan Steidl, University of Erlangen, Germany

Contacts:

For program: Kay Berkling, Diego Giuliani

For Presenters

Oral Presentation

The time slot for an oral presentation is **20 minutes**, including discussion. Your talk should therefore not exceed 15 minutes, allowing 4 minutes for questions/answers, and 1 minute to switch over to the next speaker. The room for oral presentations will be equipped with a laptop or PC running Windows XP. **Microsoft PowerPoint and Acrobat Reader** will be available on the machine.

You will not be allowed to use your own laptop to present your talk. You must upload your presentation onto the server beforehand. The workshop staff must have your presentation on the server before the welcome message. Oral paper presenters are strongly encouraged to upload their presentations well in advance of this deadline. You are encouraged to do so using a USB memory stick. You will be also able to (and should) confirm that your presentation will be properly displayed by the equipment in the lecture hall at that time.

Presenters **with needs** for their presentation not covered by the above description (e.g. loudspeakers) are kindly invited to mail Kay Berkling (kay at berkling.com) and/or Diego Giuliani (giuliani at fbk.eu) soon.

Demo Presentation

Participants who wish to present a demo during the poster sessions are invited to send an email with a short description of their demo and relative requirements (e.g. table, low-noise environment, etc.) to Kay Berkling (kay at berkling.com) and/or Diego Giuliani (giuliani at fbk.eu).

Poster Presentation

Poster presenters are provided with a poster tripods/easel which size is **30 inch (76.2 cm) wide and 40 inch (101.6 cm) high**. Your poster is not allowed to exceed this size.

- The title of your poster should appear at the top in capital letters about 25mm (1 inch) high. Below the title, put the author(s) name(s) and affiliation(s).
- Carefully prepare your poster well in advance of the workshop. There will be no time or materials available for last-minute preparations at the workshop.
- Use color for highlighting and to make your poster attractive. Use pictures, diagrams, figures, etc., rather than only text wherever possible.
- The smallest text on your poster should be at least 9mm (3/8 inch) high, and the important points should be in a larger size.
- Make your poster as self-explanatory as possible. This will save you time to use for discussions and questions.

At the workshop please remember to put up the poster during the lunch break or, in any case, at least 10' before the poster session starts.

2nd Workshop on Child, Computer and Interaction

Cambridge, MA, USA – MIT Media Lab

5 November 2009
Technical Program

Thursday, 5 November 2009

- 09:00 – 09:15** **Welcome Message** – *Shrikanth Narayanan*
- 09:15 – 10:15** **Invited Talk**
Chair: *Shrikanth Narayanan*
- 09:15 – 10:15 Conversations with a Virtual Science Tutor in Multimedia Learning Environments
Wayne Ward and Ronald Cole
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- 10:15 – 13:00** **Oral Presentations**
Chair: *Elmar Nöth*
- 10:15 – 10:35 Fantasy, Curiosity and Challenge as Adaptation Indicators in Multimodal Dialog Systems for Preschoolers
Theofanis Kannetis, Alexandros Potamianos, Georgios N. Yannakakis
- 10:35 – 10:55 Comparison of Child-Human and Child-Computer Interactions based on Manual Annotations
Matthew Black, Jeannette Chang, Jonathan Chang, Shrikanth Narayanan
- 10:55 – 11:20** **Coffee Break**
- 11:20 – 11:40 Interacting with Stories
Ashley Robinson, Chao Peng, Francis Quek, Yong Cao
- 11:40 – 12:00 Whole Body Interaction for Child-Centered Multimodal Language Learning
Alberto Gonzalez, John Borland, Kathleen Geraghty
- 12:00 – 12:20 Automatic Childhood Autism Detection by Vocalization Decomposition with Phone-like Units
Dongxin Xu, Jeffrey Richards, Jill Gilkerson, Umit Yapanel, Sharmistha Gray, John Hansen
- 12:20 – 12:40 Towards a Language-independent Intelligibility Assessment of Children with Cleft Lip and Palate
Tobias Bocklet, Andreas Maier, Korbinian Riedhammer, Elmar Nöth
- 12:40 – 13:00 A Review of ASR Technologies for Children's Speech
Matteo Gerosa, Diego Giuliani, Shrikanth Narayanan, Alexandros Potamianos
- 13:00 – 14:30** **Lunch**
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14:30 – 16:00 **Poster Presentations**
(All presenters are expected to be present during both poster sessions)

14:30 – 15:15 **Poster Session I**
Chair: *Diego Giuliani*

- Assessing the Stress/Neutral Speech Environment in Adult/Child Interactions for Applications in Child Language Development (PP1)
Sanjay Patil, John Hansen, Jill Gilkerson, Sharmistha Gray, Dongxin Xu
- Automatic Classification of Reading Disorders in a Single Word Reading Test (PP2)
Andreas Maier, Stefanie Horndasch, Elmar Nöth
- Robustness Optimization of a Speech Interface for Child-Directed Embedded Language Tutoring (PP3)
Oliver Jokisch, Horst-Udo Hain, Rico Petrick, Rüdiger Hoffmann
- Avoiding Speaker Variability in Pronunciation Verification of Children's Disordered Speech (PP4)
Oscar Saz, Eduardo Lleida, W.-Ricardo Rodriguez
- Comparing Child and Adult Language: Exploring Semantic Constraints (PP5)
Ismail El Maarouf, Farida Saïd, Jeanne Villaneau, Dominique Duhaut
- Pilot Experiments on Children's Voice Recording (PP6)
Sawit Kasuriya and Alistair D. N. Edwards
- Recognizing Child's Emotional State in Problem-Solving Child-Machine Interactions (PP7)
Serdar Yildirim, Shrikanth Narayanan

15:15 – 16:00 **Poster Session II**
Chair: *Kay Berkling*

- Learning Meaningful Units from Multimodal Input and the Effect of Interaction Strategies (PP8)
Louis ten Bosch, Lou Boves, Okko Räsänen
- Child Selection of Learning Methods: A Corpus Based on Real-World Data (PP9)
Heikki Ruuska, Shinya Kiriya, Yoichi Takebayashi
- Preliminary Study of Stress/Neutral Detection on Recordings of Children in the Natural Home Environment (PP10)
Umit Yapanel, Dongxin Xu, John Hansen, Sharmistha Gray, Jill Gilkerson, Jeffrey Richards
- From Competitive to Social Two-player Videogames (PP11)
Jesús Ibáñez Martínez, Carlos Delgado-Mata
- Incorporating Music into the Study of Algorithms and Computer Programming (PP12)
Takeo Tatsumi, Yoshiaki Nakano, Kiyoshi Tajitsu, Haruhiko Okumura, Yasunari Harada
- An Automatic Screening Test for Preschool Children: Theory and Data Collection (PP13)
Tobias Bocklet, Cordula Winterholler, Andreas Maier, Maria Schuster, Elmar Nöth
- Upper Limb Rehabilitation and Evaluation of Children Using a Humanoid Robot (PP14)
Douglas Brooks, Ayanna Howard

16:00 – 16:15 **Coffee Break**

16:15 – 18:30 **Brain Storming Session**
Chair: *Alexandros Potamianos*
