

#### ERKUT\_SHORT\_BIO.TXT

Cumhur Erkut was born in Istanbul, Turkey, in 1969. He received B.Sc. and the M.Sc. degrees in electronics and communication engineering from the Yildiz Technical University, Istanbul, Turkey, in 1994 and 1997, respectively, and the Dr.Sc.(Tech.) degree in electrical engineering from the Helsinki University of Technology (TKK), Espoo, Finland, in 2002. Between 1998 and 2002, he worked as a researcher at the Laboratory of Acoustics and Audio Signal Processing of the TKK. He is currently a postdoctoral researcher in the same institution, where he contributes to the research projects "Sound to Sense, Sense to Sound" (S2S<sup>2</sup>) [FP6, FET, IST-2004-03773] and "Modeling and Perception of Sound Sources" (MAPS) [Academy of Finland, 105651], and directs the industry-funded research project "Identification of contact sounds" (Contact-ID). Within the emerging discipline of sonic interaction design, which aims to exploit sound as one of the principal channels conveying information in interactive contexts, Contact-ID aims to develop novel algorithms for identification and classification of collusion and contact sounds in real-time. This task requires an investigation of the elasto-mechanical properties of the colliding sound sources and their interaction, and a set of tools for modeling and analysis of collusion and contact sounds. Dr. Erkut's current research interests include physics-based sound synthesis, musical acoustics, interactive sonification, and sonic interaction design. His detailed CV can be retrieved from <http://www.acoustics.hut.fi/~cerkut/cv/ErkutCV.pdf>.

Cumhur Erkut has received his Dr.Sc.(Tech. EE) degree from Helsinki University of Technology (TKK), Espoo, Finland, in 2002. His doctoral work has focused on the analysis, control, and digital sound synthesis of musical instruments by physical models. Besides developing novel sound analysis and synthesis techniques, he has also collaborated with other groups in interdisciplinary contexts in real-time implementation, control, and content creation. His next project, Algorithms for the Modelling of Acoustic Interactions (ALMA) [FP5, FET, IST-2001-33059] focused on developing digital sound synthesis blocks, managing their interactions dynamically, and controlling them via matched gestural interfaces. Based on his research in ALMA project, he has deduced a conceptual framework for block-based sound synthesis and control in interactive contexts; he currently utilizes this framework for the emerging discipline of sonic interaction design (SID) at TKK, Lab. Acoustics and Audio Signal Processing. The SID team is evolving into an independent research team at TKK. At least one of the team members (Koray Tahiroglu; an active PureData (pd) developer, contributor, and educator) will also participate to eINTERFACE'07.

SID aims to exploit sound as one of the principal channels conveying information in interactive contexts. Interactive sonification and auditory displays are also covered within the SID discipline, with an emphasis on mapping between the signals acquired from gestural controllers or sensors and digital sound synthesis parameters. Although the sonic modality helps us considerably in our everyday life, it is typically under-utilized in interaction design. The integration of SID know-how, techniques, and tools, therefore, are important offerings for the preferred projects in the Workshop. In particular, Dr. Erkut's expertise is directly relevant for WPs 2-5 of the proposed project: Audiovisual content generation controlled by physiological signals for clinical and artistic applications.

Dr. Erkut is a proficient user of Matlab, pd-GEM, and Csound. In addition, he is eager to learn more on biophysical signal processing and incorporate the open-source platform OpenInterface into his own research.