



ISCA Tutorial and Research Workshop on Statistical And Perceptual Audition SAPA 2010



Saturday 25 September 2010, Makuhari, Japan

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*2010-09-14: The workshop will be held in Conference Center Room 302.
The [program](#) (including talk times) is now posted.*

*2010-07-22: Registration is now open. **Online registration will be accepted until midnight Tokyo time, Thu Sep 23 (11AM EDT)**. You can still register on-site on the day after that, for JPY 5000.*

*2010-05-14: We apologize deeply for the problems with the submission web site! It should now be fixed. We have extended submission until **Friday May 21** to compensate.*

2010-04-09: Submission is now open.

Papers are solicited for the 2010 Workshop on Statistical and Perceptual Audition (SAPA2010), to be held in Makuhari, Japan, as a satellite to [Interspeech 2010](#).

Following on from the successes of [SAPA2004](#) (in Jeju, Korea), [SAPA2006](#) (in Pittsburgh, USA), and [SAPA2008](#) (in Brisbane, Australia), the objective of the SAPA2010 workshop is to bring together researchers considering perceptually-motivated problems in sound and speech analysis and understanding, employing statistical and machine learning tools.

There is a wide area of overlap between more heuristic models of human auditory function and purely pattern recognition approaches that are independent of human audition; SAPA aims to be the forum for presentation and discussion of this promising and expanding field.

This will be a one-day workshop with a limited number of oral presentations, chosen for breadth and provocation, and an informal atmosphere to promote discussion. We hope that the participants in the workshop will be exposed to a broader perspective, and that this will help foster new research and interesting variants on current approaches.

Papers describing relevant research and new concepts are solicited on, but not limited to, the following topics:

- Generalized audio analysis
- Speech analysis
- Music analysis
- Audio classification
- Scene analysis
- Signal separation
- Speech recognition
- Multi-channel analysis

In all cases, preference will be given to papers that clearly involve both perceptually-defined or perceptually-related problems, and statistical or machine-learning based solutions.

Manuscripts must be between 4 and 6 pages long, in standard Interspeech double-column format. Accepted papers will be published in the workshop proceedings.

Papers must be received by 14 May 2010 (two weeks after the Interspeech deadline). The results of the paper review will be posted by 2 July 2010 (same as Interspeech).

Organizers

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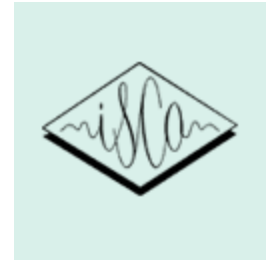
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Aims

Following on from the previous SAPA workshops ([SAPA2004](#) in Jeju, Korea, [SAPA2006](#) in Pittsburgh, USA, and [SAPA2008](#) in Brisbane, Australia) the objective of the SAPA2010 workshop is to bring together researchers considering perceptually-motivated problems in sound and speech analysis and understanding, employing statistical and machine learning tools.

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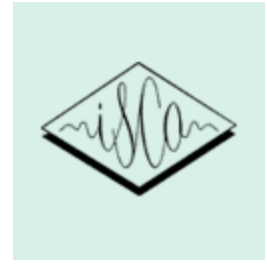
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People

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Dates

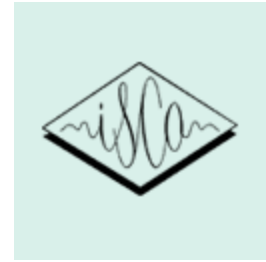
Paper submissions:	Friday 14 May 2010 (two weeks after Interspeech) Friday 21 May 2010
Notification of acceptance:	Friday 02 July 2010 Friday 09 July 2010
Workshop date:	Saturday 25 September 2010 (the day before Interspeech begins)

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Technical Program

The workshop will be held in Conference Center Room 302.

Click on each title to retrieve the corresponding paper.

0945-1000 Welcome and introduction

Morning Session: Features and Representation

Chair: Masataka Goto

1000-1030 [Supervised vs. Unsupervised Learning of Spectro Temporal Speech Features](#)
(pp. 1-6)
Martin Heckmann, Honda Research Institute Europe GmbH

1030-1100 [Musical instrument identification based on harmonic temporal timbre features](#)
(pp. 7-12)
Jun Wu, Yu Kitano, Takuya Nishimoto, Nobutaka Ono, & Shigeki Sagayama, University of Tokyo

1100-1130 [Multiple-F0 Estimation of Piano Sounds Exploiting Spectral Structure and Temporal Evolution](#) (pp. 13-18)
Emmanouil Benetos & Simon Dixon, Queen Mary University of London

1130-1300 lunch

Midday session: Source Separation

Chair: Bhiksha Raj

1300-1330 [Distant microphone speech recognition in a noisy indoor environment: combining soft missing data and speech fragment decoding](#) (pp. 19-24)
Ning Ma, Jon Barker, Heidi Christensen, & Phil Green, University of Sheffield

1330-1400 [Online Speech Source Separation in Meeting Scene with Time-Varying Weights of Noise Covariance Matrices](#) (pp. 25-30)
Masahito Togami & Koichi Hori, Department of Aeronautics and Astoronautics, School of Engineering, The University of Tokyo, Japan

1400-1430 [Informed Source Separation of Orchestra and Soloist Using Masking and Unmasking](#) (pp. 31-36)
Yushen Han & Christopher Raphael, School of Informatics and Computing, Indiana University Bloomington

1430-1500 *break*

Afternoon session: Statistics and Learning

Chair: Shigeki Sagayama

1500-1530 [Detection of polyphonic music note onsets by application of the Bayesian Theory of Surprise](#) (pp. 37-42)
Piotr Holonowicz & Perfecto Herrera, Music Technology Group, Departament of Information and Communication Technologies, Universitat Pompeu Fabra, Barcelona, Spain

1530-1600 [A Statistical Model of Speech F0 Contours](#) (pp. 43-48)
Hirokazu Kameoka, Jonathan Le Roux, & Yasunori Ohishi, NTT

1600-1630 [Machine Learning for Learning How the Brain Recognizes Speech and Language](#) (pp. 49-54)
Janet M. Baker, Saras Institute; Alexander M. Chan, Dept. of Neurology, Massachusetts General Hospital and Harvard-MIT Division of Health, Sciece, and Technology, Medical Engineering and Medical Physics; Ksenija Marinkovic, Dept. of Radiology, Univ. of California, San Diego; Eric Halgren, Dept. of Radiology, Univ. of California, San Diego; Sydney S. Cash, Dept. of Neurology, Massachusetts General Hospital

1630-1700 *break*

1700-1730 Discussion & conclusions

1800 *dinner (TBA)*

Dan Ellis <dpwe@ee.columbia.edu>

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