Winter School on Speech and Audio Processing 2010

12-15 January 2010

http://www.ee.iitb.ac.in/wissap10

Department of Electrical Engineering

Indian Institute of Technology Bombay

BACKGROUND

The series of Winter Schools on Speech and Audio Processing provides a regular forum for research students, faculty and R&D engineers working in these areas to enhance their background, and get exposed to intricate research aspects. The schools work on a non-profit basis and hope to provide a platform for a qualitative exchange of ideas for utilizing speech and audio technology in the Indian context. WiSSAP-10 is the fifth one in the series, following the very successful WiSSAP-06, WiSSAP-07, WiSSAP-08 and WiSSAP-09.

FOCUS

The focus of the Winter School on Speech and Audio Processing - 2010 (WiSSAP-10) is on **Audio Content Analysis and Retrieval**. While information extraction from written text is routinely done by search engines, access to information in other media (audio, images, video) is still very difficult. Audio search and retrieval is fast becoming one of the central problems for audio researchers around the world. On the first day of the School, lectures given by active researchers from within India will cover the fundamentals of these topics. Over the next three days, invited overseas speakers will cover in depth the theory, applications and practical aspects of audio content analysis and description, as well as building large-scale retrieval systems. In addition, there will be evening sessions for presentations from sponsors, interaction with experts and discussions on open problems in this area.

WiSSAP-10 is targeted mainly towards post-graduate students, faculty in educational institutions and scientists/researchers in research labs/industry.

INTERNATIONAL SPEAKERS

Xavier Serra

Xavier Serra is the head of the Music Technology Group of the University at Pompeu Fabra in Barcelona. He obtained a PhD in Computer Music from Stanford University in 1989 with a dissertation on the spectral processing of musical sounds that is considered a key reference in the field. His research interests cover the understanding, modeling and generation of musical signals by computational means, with a balance between basic and applied research and approaches from both scientific/technological and humanistic/artistic disciplines. Dr. Serra is very active in promoting initiatives in the field of Sound and Music Computing, being editor and reviewer of a number of journals, conferences and research programs of the European Commission. He is the principal investigator of more than 15 major research projects funded by public and private institutions, the author of 31 patents and of more than 50 research publications.

Malcolm Slaney

Malcolm Slaney, senior researcher at Yahoo! Research, received his PhD from Purdue University for his work on computer imaging. His present interests encompass all manners of perception, signal processing, and multimedia analysis and modification. Before joining Yahoo he was at IBM's Almaden Research Center working on multimedia analysis and user models. He has also been employed by Interval Research, Apple's Advanced Technology Group, Schlumberger's Palo Alto Research Laboratory, and Bell Labs. He is the coauthor of the book "Principles of Computerized Tomographic Imaging" which was recently republished by SIAM as a "Classics in Applied Mathematics". He is coeditor of the book "Computational Models of Auditory Function".

John Makhoul

John Makhoul joined Bolt Beranek and Newman Inc. (BBN Technologies) in Cambridge, Massachusetts in 1970, where he is currently chief scientist, after his Ph.D. degree (1970) from the Massachusetts Institute of Technology (MIT). His research interests include various aspects of speech processing (speech coding, speech recognition, speaker recognition, speech synthesis, speech enhancement, and voice modification), human-machine interaction using voice (including speech-to-speech translation for limited applications), multilingual optical character recognition, and artificial neural networks. Dr. Makhoul received the IEEE Signal Processing Society (SPS) Senior Award (1978), the IEEE SPS Technical Achievement Award (1982), the IEEE SPS Society Award (1988), and the IEEE Third Millennium Medal (2000). On 21 April 2009, he received 2009 IEEE James L. Flanagan Speech and Audio Processing Award at the IEEE International Conference on Acoustics, Speech, and Signal Processing in Taipei, Taiwan for pioneering contributions to speech modeling.

Audio Content Analysis and Retrieval

Tutorials

Tutorial 1	Audio Signal Processing Basics
Tutorial 2	Statistical Modeling Methods
Tutorial 3	Feature Selection and Pattern Classification

Advanced Topics

X. Serra	Audio Analysis and Models, Sound and Music Description for Search and Retrieval
M. Slaney	Auditory Perception, Audio Similarity Measures, Retrieval with Large-scale Tools
J. Makhoul	Speech and Language Technologies for Search and Retrieval (by Interactive Video Conference)

Schedule

Time/Date	12 JAN 10, Tue Fundamentals	13 JAN 10, Wed Advanced Topics	14 JAN 10, Thu Advanced Topics	15 JAN 10, Fri Advanced Topics
09:00-10:30	Overview	Lecture	Lecture	Lecture
10:30-11:00	*Tea*	*Tea*	*Tea*	*Tea*
11:00-12:30	Lecture	Lecture	Lecture	Q&A
12:30-13:30	*Lunch*	*Lunch*	*Lunch*	*Lunch*
13:30-15:00	Lecture	Lecture	Lecture	
15:00-15:30	*Tea*	*Tea*	*Tea*	
15:30-17:00	Lecture	Industry Presentation	Lecture	
19:30-20:30	*Dinner*	*Dinner*	*Dinner*	
20:30-21:30			Dr. Makhoul Video lecture	

Program Committee

1. Preeti Rao, IIT Bombay
2. P.C. Pandey, IIT Bombay
3. K. Samudravijaya, TIFR Mumbai
4. T.V. Sreenivas, IISc Bangalore
5. S. Umesh, IIT Madras
6. Hema Murthy, IIT Madras
7. C. Chandra Sekhar, IIT Madras
8. V. Ramasubramanian, Siemens CT India
9. S.P. Kishore, IIIT Hyderabad
10. K.S. Rao, IIT Kharagpur
11. R. Sinha, IIT Guwahati

Organising Committee

1. Preeti Rao, IIT Bombay
2. P.C. Pandey, IIT Bombay
3. K. Samudravijaya, TIFR Mumbai

Registration Fee

	ISCA/IEEE* Member (Rs.)	NON ISCA/IEEE Member (Rs.)
Industry Delegates	4000	4500
Academic/Faculty	3000	3300
Student**	1500	1750

***ISCA/IEEE members must indicate number and validity period.**

****Attach a copy of student ID-card or letter from the department.**

Payment Details

Registration form and payment details are available online.

Last date for registration is 10th December 2009.

Mailing Address

WiSSAP—2010

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Accommodation

Registration fee **does not** include accommodation charges. A limited number of shared rooms are available for non-student participants at Guest House on campus. Students will be accommodated in hostels. Room charges details are available online.