

“Trends” Expert Overview Sessions Revived at ICASSP 2011

INTRODUCTION

The breadth of topics in signal processing continues to grow, propelled by advances in digital signal processing theory as well as in new application domains. Researchers are therefore bombarded by new information in their areas of interest, but it is rather difficult to achieve a perspective of trends and advances in collateral areas. At the 2011 IEEE ICASSP in Prague, the program committee revived the idea of expert overview sessions called “Trends,” which are summary talks authored by the IEEE Signal Processing Society Technical Committees and presented by their keynote experts. As drivers of the technology areas, the Technical Committees have the obvious expertise to gauge the advances and to put in perspective the directions of future

research, also due to their vantage point of reviewers of papers.

The expert overview sessions were very well attended during the conference, which is an indication of the usefulness of the initiative. The ICASSP 2011 program committee thought that

these sessions should be captured in writing and made available to the members of the Society. Therefore we contacted the editors of *IEEE Signal Processing Magazine*, who welcomed the initiative. Starting with this issue, readers will have an opportunity to access the summaries of the Trends sessions authored by the Technical Committees. Enjoy reading the summaries, and let us know your thoughts!

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—Note: Additional multimedia resources for these sessions can be found at <http://www.signalprocessingsociety.org/publications/periodicals/spm/columns-resources/>.



The “Trends” expert overview sessions were well attended at ICASSP 2011 in Prague.



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Audio and Acoustic Signal Processing

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Many of the technology trends we see today in audio and acoustic signal processing (AASP) can be traced back to visionary ideas of those we now call luminaries. Key figures in our community include Colin Cherry (1914–1979) for defining the cocktail party problem; Manfred Schroeder (1926–2009) for contributions to understand-

ing of acoustics, hearing, music, and speech coding; and many other researchers equally important but too numerous to list.

The AASP area has seen strong growth in research activity in recent years. Drivers for such growth include rapidly increasing customer expectations for quality, mobility, and functionality for audio in communications and entertainment scenarios. Many consumers have come to expect that there is really nothing that cannot be done with audio, whether it’s music or

speech, providing your battery holds out. This “demand” is coupled with the “supply” of low-cost, high-performance audio processing capability.

The number of AASP submissions to ICASSP grew again this year by 25% with papers in speech enhancement, source separation, array processing, and music analysis being the most numerous. Similar trends can be seen for *IEEE Transactions on Audio, Speech, and Language Processing*.

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