

ISPA 2013
Special Session on Tomography

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ISPA 2013

- 8th International Symposium on Image and Signal Processing and Analysis (ISPA 2013)
- September 4-6, 2013, Trieste, Italy



Previous Editions

- [First International Workshop on Image and Signal Processing and Analysis](#)
Pula, Croatia, June 14-15, 2000
- [Second International Symposium on Image and Signal Processing and Analysis](#)
Pula, Croatia, June 19-21, 2001
- [Third International Symposium on Image and Signal Processing and Analysis](#)
Rome, Italy, September 18-20, 2003
- [Fourth International Symposium on Image and Signal Processing and Analysis](#)
Zagreb, Croatia, September 15-17, 2005
- [Fifth International Symposium on Image and Signal Processing and Analysis](#)
Istanbul, Turkey, September 27-29, 2007
- [Sixth International Symposium on Image and Signal Processing and Analysis](#)
Salzburg, Austria, September 16-18, 2009
- [Seventh International Symposium on Image and Signal Processing and Analysis](#)
Dubrovnik, Croatia, September 4-6, 2011

Symposium Topics

- Image and Video Processing
- Image and Video Analysis
- Image Formation and Reproduction
- Signal Processing
- Signal Analysis
- Audio and Speech Processing
- Applications

Summary

- 250 submissions presenting research and applications of signal and image processing.
- The program committee selected 147 submissions for presentation at ISPA 2013.
- The papers were organized into 26 oral sessions that were scheduled into three parallel program tracks.
- The program included ten special sessions presenting the state of the art on specific aspects of image and signal processing. The special sessions were organized and are chaired by distinguished researchers from both academia and industry.

Special Sessions

- Providing Clinical Value to Medical Images and Biomedical Signals
- Digital Imaging in Cultural Heritage
- Enhanced X-ray Tomographic Reconstruction: Modeling and Algorithms
- Active Noise and Vibration Control
- Bio-Medical Data Analysis and Diagnosis Tools
- Retinal Image Analysis
- Hardware-Software Co-Design Methodologies for Streaming Processing in Digital Media Technologies
- Multichannel Audio Algorithms: New Trends and Innovative Applications
- Theory and Applications of Digital Geometry and Non-Traditional Grids
- Real-Time and Mobile Vision Algorithms

Enhanced X-ray Tomographic Reconstruction: Modeling and Algorithms

- Organizers: Péter Balázs and Antal Nagy
(University of Szeged, Hungary)
- 10 papers submitted
- 7 papers accepted
- One of the longest special session

Topics

- linear and non-linear modeling methods of X-ray imaging devices
- novel type and/or custom tailored image reconstruction algorithms
- collecting and exploiting prior information in image reconstruction
- machine learning methods in tomography
- applications of the above fields in absorption-, phase-, fluorescent-, and diffraction-contrast tomography

Talks (20 minutes)

- *Sara Brunetti, Paolo Dulio, Carla Peri.* Explicit Determination of Bounded Non-Additive Sets of Uniqueness for Four X-rays
- *Nicola Viganò, Wolfgang Ludwig, Kees Joost Batenburg.* Discrete Representation of Local Orientation in Grains Using Diffraction Contrast Tomography
- *Yan Gerard.* Elementary Algorithms for Multiresolution Geometric Tomography with Area Model
- *Stefano Brocchi.* An Object-Based Tomographical Reconstruction Algorithm Exploiting Interest Points in Image Projections
- *Roberto Fedele, Luca Galantucci, Antonia Ciani.* Motion Estimation by X-ray Tomography: A Variational Formulation for 3D-Volume DIC and a Finite Element Implementation
- *Esa Niemi, Matti Lassas, Samuli Siltanen.* Dynamic X-ray Tomography with Multiple Sources
- *Sara Mohammadi, Francesco Brun, Christian Dullin, Diego Dreossi, Giuliana Tromba.* A Comparison of Free Software Implementations of Phase Retrieval Algorithms for Propagation-Based X-ray Microtomographic Imaging

Acknowledgment

The preparation of this presentation was supported by the **European Union** and the **State of Hungary**, co-financed by the **European Social Fund** in the framework of TÁMOP-4.2.4.A/ 2-11/1-2012-0001 'National Excellence Program'.

