

ICIP 2007

Technical Program Overview

It is our pleasure to welcome you to the 2007 IEEE International Conference on Image Processing in San Antonio, Texas, USA! We hope that you will find the conference both exciting and stimulating.

This year, we received 1708 properly completed paper submissions from authors from 58 countries. This is an increase of 7% over the 1596 submissions in ICIP 2006. Providing a thorough and fair review process for ICIP was made possible by the over 700 expert reviewers who generously provided over 5000 reviews. We also had a technical program committee of 33 people who personally assigned reviewers for each of the 1708 submissions based on their technical content, and also helped assess and recommend decisions for boundary papers, as well as performed their own reviews. There were many experts who generously provided their valuable feedback by reviewing up to 20 papers, and this included many current and past members of the IEEE Image and Multidimensional Signal Processing Technical Committee. On behalf of the entire ICIP community, we would like to thank all of the above whose valuable contributions have made ICIP 2007 possible!

Based on the feedback provided by the reviewers and technical program committee members, we accepted 843 papers that were organized into 36 lecture and 48 poster sessions, covering the whole gamut of image processing research. Similar to prior ICIP conferences, the most popular sessions, in terms of numbers of papers submitted, were in order: image and video segmentation, image and video coding, biomedical imaging, security, restoration and enhancement, stereoscopic and 3-D processing, and image & video storage and retrieval.

The ICIP 2007 technical program features three plenary lectures examining the timely and exciting research areas of compressive sensing, face recognition, and digital cinema. The three plenary lectures are:

- **Compressive Sensing**
Presenter: Emmanuel J. Candes, California Institute of Technology
- **Survey of Automatic Face Recognition**
Presenter: P. Jonathon Phillips, National Institute of Standards & Technology
- **An Overview of Digital Cinema**
Presenter: Michael W. Marcellin, University of Arizona

The conference begins on Sunday, September 16, with eight tutorials organized by the tutorials chair Prof. Eli Saber. These tutorials were selected from among 18 proposals submitted in response to the Call for Tutorials by a team of experts under the guidance of

Prof. Saber. Attendees can get overviews of the state of the art in several key areas of image and video processing through the following tutorials:

- **Distributed Video Coding for Low Cost Video Encoding**
Presenter: Anil Fernando, University of Surrey, UK
- **Moments and Moment Invariants in Image Analysis**
Presenters: Jan Flusser, Barbara Zitova, and Tomas Suk, Institute of Information Theory and Automation, Academy of Sciences of the Czech Republic
- **Perceptual Metrics for Image Quality Evaluation**
Presenters: Thrasyvoulos Pappas, Northwestern University, and Sheila Hemami, Cornell University
- **Game Theoretic Approaches for Multi-user Multimedia Resource Allocation in Emerging Cognitive Radio Networks**
Presenters: Mihaela van der Schaar, University of California, Los Angeles, and Sai Shankar N, Qualcomm Incorporated
- **Scalable Video Coding and Networking**
Presenters: Jens-Rainer Ohm, RWTH Aachen University, Germany, and Thomas Wiegand, Fraunhofer HHI, Germany
- **Digital Image Forensics**
Presenter: Yun Shi, New Jersey Institute of Technology
- **Image Processing using FPGAs**
Presenter: Donald Bailey, Massey University, New Zealand
- **Content-Based Image and Video Retrieval**
Presenters: Theo Gevers, Nicu Sebe, and Arnold Smeulders, University of Amsterdam

In addition to the tutorials, plenary addresses, and regular sessions, ICIP 2007 features six special sessions covering a broad spectrum of timely topics. We have selected the topics of these sessions by reviewing the 11 proposals submitted in response to the Call for Special Sessions. We would like to thank Prof. Scott Acton for his efforts as the special sessions chair. All special session submissions underwent a similar review process as regular submissions, and each received from three to six reviews. This year's special sessions and their organizers are:

- **Video Coding for Next Generation Displays**
Organizer: Andrew Segall, Sharp Laboratories of America
- **Distributed Source Coding I: Low Complexity Video Coding**
Organizers: Joern Ostermann, Leibniz Universität Hannover, Germany, and Da-ke He, IBM Research, USA, and Ashish Jagmohan, IBM Research, USA
- **Distributed Source Coding II: Distributed Image and Video Coding and Their Applications**
Organizers: Da-ke He, IBM Research, USA, and Joern Ostermann, Leibniz Universität Hannover, Germany, and Ashish Jagmohan, IBM Research, USA
- **Challenges in Restoration for Media Production**
Organizers: Anil Kokaram, Trinity College Dublin, Ireland, and Theodore Vlachos, University of Surrey, UK, and Bernard Besserer, University of La Rochelle, France, and Georg Thallinger, Joanneum Research, Austria

- **Image Processing and Analysis for Oncology**

Organizer: Jinshan Tang, Alcorn State University, USA

- **Soft Computing in Image Processing: Recent Advances**

Organizers: Mike Nachtgael, Ghent University, Belgium, and Etienne Kerre, Ghent University, Belgium, and Gerald Schaefer, Aston University, UK

ICIP 2007 includes several paper awards. For the IBM Student Paper Awards, the ICIP committee nominated ten papers from among the student paper submissions based on top review scores, and reviewer feedback on such topics as originality, potential impact, and presentation quality. The IBM award committee then selected the four winners. For the DoCoMo USA Labs Innovative Paper award, the ICIP committee nominated a second set of twenty-five best scoring papers, based on top review scores, and reviewer feedback on such topics as originality, potential impact, and presentation quality. An award committee coordinated by DoCoMo USA Labs then selected the two winners.

We would like to extend our deepest appreciation to the plenary speakers, tutorial presenters, special sessions chairs and presenters, and the ICIP authors and ICIP review committee for their contributions to ICIP 2007. We would also like to thank Conference Management Services, Inc. (CMS), and in particular Ms. Billene Mercer, for their expert guidance in organizing a conference of this size. We would also like to give a special thanks to Mr. Lance Cotton of CMS, whose tireless and friendly day-to-day help over the past year have been indispensable for the success of ICIP.

We would like to acknowledge and express our thanks to Hewlett-Packard for their support of ICIP, and to IBM and DoCoMo USA Labs for their support of the ICIP paper awards. Finally, we offer our sincerest appreciation to the thousands of researchers all over the world for their excellent contributions, which resulted in an outstanding technical program. All of us on the program committee look forward to welcoming you to San Antonio, and offering you a rewarding, exciting, and memorable experience.

John Apostolopoulos and Robert Safranek
ICIP 2007 Technical Program Co-Chairs