

## Guest Editorial

Laurent D. Cohen · Nir Sochen · Luminita A. Vese

Published online: 16 December 2008  
© Springer Science+Business Media, LLC 2008

This issue of JMIV is the result of a Call For Papers sent to all selected speakers of the sixth conference on Mathematics and Image Analysis (MIA'06), which took place in Paris on September 18–21, 2006. The first two meetings were organized in Luminy, near Marseilles, France, in November 1997 and April 1999; the third to fifth meetings were in Paris in September 2000, 2002 and 2004 respectively. These conferences were initiated by the committee of the CNRS French research cluster called GDR MSPC, for Mathematics of Cognitive and Perceptive Systems, created by Robert Azencot (then at ENS Cachan). The first four meetings were organized mainly by Laurent Younes (then at ENS Cachan), Alain Trouvé (ENS Cachan) and Laurent Cohen (University of Paris Dauphine) who was also the main chair for the last two meetings.

Since MIA'00, the conferences took a larger and larger scale. For MIA'06, we had as sponsors the University of Paris 9 Dauphine, INRIA, Thales Air Defense and DGA. There were about 267 international participants attending the 26 talks (the largest number of participants so far), most of them being long talks. Most of the participants were from France, but more than half of the speakers were from other countries in Europe, Israel, Canada, and USA. The participants were mainly from these same countries.

---

L.D. Cohen (✉)  
CEREMADE, CNRS—University of Paris Dauphine, Paris,  
France  
e-mail: [cohen@ceremade.dauphine.fr](mailto:cohen@ceremade.dauphine.fr)

N. Sochen  
Department of Applied Mathematics, University of Tel-Aviv,  
Tel-Aviv, Israel

L.A. Vese  
Department of Mathematics, University of California,  
Los Angeles, USA

The Organizing Committee and Scientific Committee of MIA'06 was composed of Frédéric Barbaresco (Thales), Laurent Cohen (Ceremade, University Paris Dauphine), Rachid Deriche (INRIA), Alain Trouvé (ENS Cachan) and Laurent Younes (Johns Hopkins University). The complete list of speakers with abstracts and program committee is available on the web site <http://www.ceremade.dauphine.fr/~cohen/mia2006>

The goal of these conferences and the research cluster (GDR) behind is to enhance a trend, which started about 15 years ago to give a mathematical framework to many fields of computer vision. This involves nowadays researchers all around the world at the interface between applied mathematics and new developments in various areas of computer vision and image processing. Concerning this special issue, all papers submitted were reviewed as usual for JMIV by two referees, and 11 papers were selected. We thank by the way all the referees that helped in the editorial work to realize this special issue. The papers presented were from a broad range of techniques and applications. Some treating classical problems such as the Perona-Malik equation, some are devoted to decomposition of gray-scale images and vector-fields into piecewise-smooth and oscillations, related with ideas of Yves Meyer, or to inpainting using sparse representations, and optical flow in a geometric framework; some are devoted to the boundary detection and segmentation problem of gray-scale images or of newly acquired types of volumetric medical images (HARDI); other papers were on applications beyond classical image processing, such as face analysis by elastic face models, or diffusions over Lie groups. We mention that the MIA'06 paper authored by S. Kichenassamy and titled “The Perona-Malik method as an edge pruning algorithm” was published in the earlier issue of February 2008 of the journal.