

# Contents

## Invited and Keynote Papers

The birth of mathematical morphology .....	1
<i>G. Matheron, J. Serra</i>	
A general segmentation scheme for DjVu document compression .....	17
<i>P. Haffner, L. Bottou, Y. LeCun, L. Vincent</i>	
On edge detection, integration, and active contours .....	37
<i>R. Kimmel, A.M. Bruckstein</i>	
Alpha-beta flat zones, levelings and flattenings .....	47
<i>F. Meyer</i>	

## Regularization

Image segmentation based on viscous flooding simulation .....	69
<i>F. Meyer, C. Vachier</i>	
Viscous lattices .....	79
<i>J. Serra</i>	
Regularized seeded region growing .....	91
<i>R. Beare</i>	

## Applications

Texture primitive description using skeleton .....	101
<i>A. Asano, T. Ohkubo, M. Muneyasu, T. Hinamoto</i>	
Multiprimitive texture analysis using cluster analysis .....	109
<i>A. Asano, J. Endo, C. Muraki</i>	

Topography characterization of engineering surfaces .....	117
<i>E. Decencière, D. Jeulin</i>	
Image editing tools based on multi-scale segmentation .....	127
<i>B. Marcotegui, F. Zanoquera</i>	
Morphological segmentation of remotely sensed forest covers .....	137
<i>T. Barata, P. Pina</i>	
Construction of decision region borders by geometric modelling .....	147
<i>T. Barata, P. Pina</i>	
3D-skeletonization of ureteric trees .....	157
<i>G. Fricout, D. Jeulin, L.A. Cullen-McEwen, I.S. Harper, J.F. Bertram</i>	
Image processing on digital projections .....	165
<i>I. Svalbe</i>	
Generic implementation of morphological image operators .....	175
<i>J. Darbon, T. Géraud, A. Duret-Lutz</i>	
Area-morphology tools for image compression .....	185
<i>N. Young, A. N. Evans</i>	

## Binary Morphology

Algorithms for openings with rectangular structuring elements .....	197
<i>M. Van Droogenbroeck</i>	
Implementation efficiency of binary morphology .....	209
<i>D. S. Bloomberg</i>	
The incremental splitting of intervals algorithm .....	219
<i>N. S. T. Hirata, J. Barrera, R. Terada, Ed. R. Dougherty</i>	
Elliptical distance transforms and object splitting .....	229
<i>H. Talbot, B. C. Appleton</i>	

## Scale-Space

Discrete scale spaces .....	241
<i>A. Cunha, R. Teixeira, L. Velho</i>	
Morphological scale-spaces and Lie groups .....	253
<i>H.J.A.M. Heijmans</i>	
Object-oriented image analysis .....	265
<i>V. Metzler, T. Aach, C. Thies</i>	
Partial orderings and scale-spaces with monotonicity of features .....	277
<i>P. T. Jackway</i>	

## Bridges

Kuwahara-Nagao decomposed in smoothing and sharpening .....	283
<i>R. van den Boomgaard</i>	
Mathematical morphology “almost everywhere” .....	293
<i>F. Guichard, J-M. Morel</i>	

## Granulometry

Shape-only granulometries .....	305
<i>E. R. Urbach, M. H. F. Wilkinson</i>	
Granulometric determination of particle roundness .....	315
<i>G. R. Drevin, L. Vincent</i>	

## Simulations and Models

Conditional simulation of spatial stochastic models .....	327
<i>C. Lantuéjoul</i>	
Identification of finite lattice dynamical systems .....	337
<i>J. Barrera, P. Martin, M. Gubitoso, N. Hirata, N. Trepode, E. Dougherty</i>	
Error characterization morphological filter .....	347
<i>X. Gao, T. E. Boulton, V. Ramesh</i>	
Minimal set of markers for the watershed .....	359
<i>R. Lotufo, W. Silva</i>	

## Implementations

On the implementation of non-separable vector levelings .....	369
<i>F. Zanoquera, F. Meyer</i>	
Increasing the robustness of heteroassociative morphological memories	379
<i>M. Graña, B. Raducanu</i>	
Morphological segmentation on the programmable retina .....	389
<i>A. Manzanera</i>	

## Reconstruction

Probability models for connected operators .....	401
<i>D. Gatica-Perez, M-T. Sun, C. Gu</i>	
Openings and closings with reconstruction criteria .....	413
<i>I. R. Terol-Villalobos, D. Vargas-Vázquez</i>	
On filters by reconstruction for size and motion simplification .....	425
<i>P. Salembier, J. Ruiz</i>	
Subject Index .....	435
Author Index .....	443