



Preface

This second volume includes 35 extended abstracts accepted for poster presentation at the 8th International Symposium on Mathematical Morphology, held in Rio de Janeiro from October 10th to 13th, 2007. The poster sessions were intended to provide a forum for presentation of ongoing progress in themes related to the symposium. We also wanted students and practitioners starting in the field to have an opportunity to meet and receive feedback from other colleagues in the area. At least half of the accepted extended abstracts have students as co-authors.

In Brazil, about ten years ago, starting with the Brazilian Workshops on Mathematical Morphology, some of us (still students) have had the opportunity to meet Dr. Henk Heijmans, Dr. Jean Serra, Dr. Fernand Meyer, Dr. Pierre Soille, Dr. Dominique Jeulin, Dr. Luc Vincent, among other main leading researchers in the field. Those opportunities were valuable for our formation as researchers. Now, we are happy that a new generation of students will have again a similar opportunity, which will certainly contribute to disseminate Mathematical Morphology even more in our country.

This proceedings is organized in six parts. Part I (Lattice Theory) presents three works related to fuzziness or to uncertainty. Part II (Geometry and topology) presents five works treating subjects as topology, shape parameter estimation and distance transforms. Part III (Segmentation) presents eight works concerned respectively with microarray image segmentation, segmentation of objects in 3D images (coronary arteries, composite fibers, polystyrene balls), 2D segmentation (brain structures, transversal sections of photonic fibers), interactivity in morphological segmentation, and segmentation of color-texture images. Part IV (Machine learning) presents two works related to the design of morphological operators from input-output pairs of training images. Part V (Algorithms and Architectures) presents six works that consider, respectively, matching of attributed sub-trees for object tracking in video sequences, a pre-processing technique for fast computation of binary erosions, a simulator for random media, an optimum dimension reduction technique and morphological neural networks. At last but not least, Part VI (Applications) presents eleven works related to gray-scale shape recognition, granulometry for color images, fingerprint minutiae extraction, heart image processing, anthropometric image treatment, motion segmentation, sand grain characterization, tool for learning basics of morphology, document processing, crater detection and gene regulatory system modeling in bioinformatics, respectively.

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