Preface

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This and the next issue of *Computing and Visualization in Science* journal contains selected lectures presented in the minisymposium on *Computational advances in evolving curves and surfaces*, which was held at the 7th World Congress on Computational Mechanics in Los Angeles, California, July 16–22, 2006.

Dynamic interfaces and moving (free) boundaries arise in a broad range of applications as material science, structural mechanics, computational fluid dynamics, image processing, computer vision and many others. They represent, e.g., the boundaries between solid and liquid phase in the solidification of materials, boundaries between immiscible liquids in multiphase flows, discontinuities representing edges in digital image segmentation, etc.

Well-known computational techniques for approximation of dynamic interfaces are algorithms based on Lagrangean, level-set and phase-field approaches. The goal of the minisymposium was to discuss recent advances in applications of these numerical algorithms such as adaptive solution on

general grids, high-resolution schemes, tangential stabilization of Lagrangean algorithms, and other issues important from modeling, implementation and simulation point of view, as well as practical applications where moving interfaces arise.

We would like to thank to everyone who contributed to the success of the minisymposium. Thanks to our 22 speakers and high quality of their talks, it has represented scientifically a strong contribution to the overall congress programme. Among others, we thank to the authors for their interesting contributions to these special issues, the referees for the review work, the organizers of the 7th World Congress on Computational Mechanics and to the management of *Computing and Visualization in Science* journal, for making this Proceedings available.

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