

## Preface

### *Special Issue for the 7th International Conference on Spectral and High Order Methods (ICOSAHOM07)*

We present in this special issue of Communications in Computational Physics selected papers from the seventh ICOSAHOM (International Conference On Spectral And High Order Methods) which was held at the Institute for Computational Mathematics and Scientific/Engineering Computing, Chinese Academy of Sciences, Beijing, China, during June 18-22, 2007. These papers were refereed by members of the scientific committee of ICOSAHOM, editors of Communications in Computational Physics and other scientists following the same refereeing procedure as that for regular CiCP manuscripts.

The ICOSAHOM conference series was initialized in the late 1980s, in recognition of the importance of high-order methods. The first ICOSAHOM conference was held in Como, Italy in 1989 and organized by C. Canuto and A. Quarteroni. Following that, ICOSAHOM has subsequently been organized on a three-year basis, with the second ICOSAHOM in Montpellier, France in 1992, organized by Y. Maday and C. Bernardi; the third conference taking place in Houston, USA in 1995, organized by R. Glowinski and R. Scott; the 4th one in Tel Aviv, Israel in 1998, organized by D. Gottlieb and S. Abarbanel; and the 5th one in Uppsala, Sweden in 2001, organized by B. Gustafsson. The ICOSAHOM'04 took place in Brown, USA, in June 2004 and was organized by D. Gottlieb, J. S. Hesthaven, G. E. Karniadakis and C.-W. Shu.

The ICOSAHOM'07 attracted more than 250 registered participants from throughout the world, giving more than 240 talks in 7 parallel sessions during the week. In addition to the many contributed and minisymposium talks, there were 8 invited plenary talks, given by Faker Ben Belgacem, Bernardo Cockburn, Wolfgang Dahmen, Anne Gelb, Benyu Guo, Einar Ronquist, Jie Shen and Dongbin Xiu. The talks present both exciting new theoretical developments as well as examples of large scale applications. The detailed information including scientific committee, invited speakers, organizing committee and conference programs can be found in

<http://lsec.cc.ac.cn/~icosahom>

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This special issue contains papers covering a wide spectrum of high order methods, from algorithm development, analysis, to issues in efficient implementation, to applications. All papers in this special issue were refereed. We would like to thank all referees for their supports.

We look forward to meeting everyone at the next ICOSAHOM to be held in Norwegian University of Science and Technology in 2009.

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