

Foreword

This volume presents selected papers from the eighth ICOSAHOM (International Conference On Spectral and High Order Methods) conference which was held at the Norwegian University of Science and Technology (NTNU), Trondheim, Norway, during the week June 22–26, 2009. These papers were refereed by members of the scientific committee of ICOSAHOM as well as by other leading scientists.

The first ICOSAHOM conference was held in Como, Italy, in 1989. At that point the importance of high order methods was recognized and it was decided to organize a series of conferences to be held every 3 years (Montpelier, France, 1992; Houston, TX, USA, 1995; Tel Aviv, Israel, 1998; Uppsala, Sweden, 2001; Providence, RI, USA, 2004; and Beijing, China, 2007).

At the conference in Beijing in 2007, it was decided to organize the conferences every other year. This decision was made partly due to the growing importance and the growing activity in this field. From the interest seen at ICOSAHOM 2009, this seems to have been an appropriate decision. The number of registered participants was over 200, while the total number of talks was 215, comprising nine invited talks, 153 talks in 19 different topic-specific minisymposia, and 53 talks in various contributed sessions. The ICOSAHOM conferences remain the main meeting place for researchers with interest in the theoretical, applied and computational aspects of high order methods for the numerical solution of partial differential equations.

The content of the proceedings is organized as follows. First, contributions from the invited speakers are included, listed in alphabetical order according to the invited speaker. Next, contributions from the speakers at all the minisymposia are included, listed in alphabetical order according to the first author of each paper. Finally, contributions from the speakers at the various contributed sessions are included, also listed in alphabetical order according to the first author.

As part of the conference, a special minisymposium was organized in memory of David Gottlieb who passed away in December 2008, and who left an indelible mark on the field of applied mathematics in general and spectral methods in particular.

The success of the meeting was ensured through the generous financial support by the Research Council of Norway, the National Science Foundation (NSF), the Norwegian University of Science and Technology (NTNU – through the Faculty of Information Technology, Mathematics and Electrical Engineering and through

the Program for Computational Science and Visualization), and Simula Research Laboratory (through Center for Biomedical Computing).

Finally, the conference could not have happened without the invaluable support and assistance of conference coordinator Anne Kajander. Special thanks also go to Tormod Bjøntegaard for all his contributions. The assistance from the members of the Numerical Analysis Group and from the graduate students at the Department of Mathematical Sciences at NTNU is also gratefully acknowledged.

*Jan S. Hesthaven
Einar M. Rønquist*

Spectral and High Order Methods for Partial Differential
Equations

Selected papers from the ICOSAHOM '09 conference,

June 22-26, Trondheim, Norway

Hesthaven, J.S.; Ronquist, E.M. (Eds.)

2011, XI, 510 p., Hardcover

ISBN: 978-3-642-15336-5