

Preface

This volume is a collection of selected contributions from the 3rd International Workshop on Computational Engineering CE2014. The first two workshops in this series were held in Munich (2009) and Darmstadt (2011). The 3rd International Workshop on Computational Engineering held in Stuttgart from October 6 to 10, 2014 discussed the state of the art and the further evolution of numerical techniques for simulation in engineering and science. It brought together competences from related fields with computer science and mathematics as an important technical basis among others. Both, young and established researchers from all these disciplines organized minisymposia with four to five speakers focussed on a challenging application or an important enabling methodology.

Motivated by current trends in numerical simulation in science and engineering, new requirements arising from rapidly increasing parallelism in computer architectures, and novel mathematical approaches, the contributions focussed on the resulting new challenges, new opportunities, and respective solutions. We grouped the chapters of this volume into three parts according to their major tasks:

Part I: Parallel Algorithms and Performance Optimization

Part II: Coupled Systems

Part III: Complex Applications and Optimization

Altogether, the book provides a wide collection of different types of applications and different points of view corresponding to different disciplinary key aspects. This comprises both problem-driven and methodology-driven approaches. We hope that this collection provides the reader with a very valuable source of inspiration for the solution of specific problems, and also the sense for the attractiveness of interdisciplinary work in computational sciences.

Stuttgart, Germany
Stuttgart, Germany
Darmstadt, Germany
June 2015

Miriam Mehl
Manfred Bischoff
Michael Schäfer

Recent Trends in Computational Engineering - CE2014
Optimization, Uncertainty, Parallel Algorithms, Coupled
and Complex Problems

Mehl, M.; Bischoff, M.; Schäfer, M. (Eds.)

2015, X, 326 p., Hardcover

ISBN: 978-3-319-22996-6