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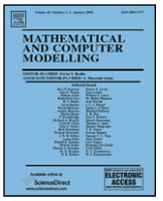

# Preface

The fields of computational electronics and electromagnetics are facing new challenges in physical model, mathematical method, numerical analysis, simulation technique, and computer-aided design software in the nanoelectronics era. We would like to use this special issue to report the recent important advances in the area of scientific computing in electrical and computer engineering. The purpose of this special issue is for academics and industrial professionals to present their recent advances, ideas and results and to exchange experiences in modeling, simulation, optimization, and other computational support for problems in electronics, electrical and computer engineering. This issue includes not only selected best papers from The 2008 Workshop on Scientific Computing in Electronics Engineering (http://ymlabcad03.eic.nctu.edu.tw/wscee08/) held in conjunction with 2008 IEEE 11st International Conference on Computational Science and Engineering (CSE 2008), São Paulo - Brazil, July 16–18, 2008, but also papers applied for this call for papers. There were a large number of paper submissions, not only from the Asia Pacific, but also from Europe and North America. All submissions and selected best papers were reviewed by at least three reviewers on relevance and technical contents on basis of papers. It was extremely difficult to select the presentation in the special issue because there were many excellent and interesting submissions. In order to allocate as many papers as possible and keep the high quality of the special issue, we finally decide to accept 17 papers in the special issue. We believe all of these papers and topics, ranging from nanoelectronics physics to computer and communication engineering, will not only provide novel ideas, new results, work in progress and state-of-the-art techniques in this field, but also stimulate future research activities in the area of scientific computing in electronics engineering.

The represented topics and papers are certainly not an exhaustive representation of the world of current scientific computing in electronics engineering. Nonetheless, they represent the rich and multi-faceted knowledge that we have the pleasure of sharing with the readers. We would like to thank the authors for their excellent contributions and patience in assisting us. Finally, the fundamental work of all reviewers on these papers is also very warmly acknowledged. I would like to thank the Editor-in-Chief of Mathematical and Computer Modelling, Professor Dr. Ervin Y. Rodin, for his support and all the Associated Guest Editors of this issue.

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