12\textsuperscript{TH} INTERNATIONAL SYMPOSIUM ON PROCESS SYSTEMS ENGINEERING

&

25\textsuperscript{th} EUROPEAN SYMPOSIUM ON COMPUTER AIDED PROCESS ENGINEERING

Edited by

Krist V. Gernaey, Jakob K. Huusom and Rafiqul Gani

Department of Chemical and Biochemical Engineering
CAPEC-PROCESS Research Center
Technical University of Denmark
DK-2800 Lyngby, Denmark
Preface

It is our great pleasure to present this volume of Computer-Aided Chemical Engineering for the joint event of the 12th International Symposium on Process Systems Engineering (PSE) and the 25th European Symposium on Computer Aided Process Engineering (ESCAPE) in Copenhagen, Denmark. Through this conference we would like to highlight the contributions of the process systems engineering community to the sustainability of the modern society. Through contributions from academia and industry, we aim to establish the core products of PSE/CAPE, to point out the new and changing scope of our achievements, and to define the future challenges we face. We also would like to celebrate the 25th anniversary of the ESCAPE-series, the 12th PSE conference and the 39th year of the Computers and Chemical Engineering journal.

The PSE series is a triennial conference which has been held since 1982, organized on behalf of the international PSE Executive Committee with representations from countries from the Asia-Pacific, Europe and the Americas. The annual ESCAPE series started in Elsinore, Denmark in 1992 and is organized on behalf of the CAPE working party of the European Federation of Chemical Engineering. In 2006 these two events were also combined in Garmisch-Partenkirchen, Germany.

Both symposia serve as a forum for engineers, scientists, researchers, managers and students from academia and industry to report on progress that has been made in PSE/CAPE, to discuss the current challenges that need to be addressed, and, to highlight new developments in the applications of methods, algorithms, tools to solve a wide range of problems. The PSE-2015/ESCAPE-25 joint event includes a large number of keynote lecturers from industry and academia as well as four plenary lectures covering topics on globalization, energy, environment and health from well-known experts from all over the world. In addition close to 525 papers will be presented covering the following topics: modelling, numerical analysis and simulation; mathematical programming (optimization); cyber-infrastructure, informatics and intelligent systems; process and product synthesis/design; process dynamics, control and monitoring; abnormal events management and process safety; plant operations, integration, planning/scheduling and supply chain; enterprise-wide management and technology-driven policy making. As well as the following domain applications: molecular, biological, pharmaceutical, food, energy, and environmental systems engineering.

More than 1200 abstracts were submitted and the final technical program includes around 520 presentations out of which, 425 manuscripts are included in this proceedings volume. These manuscripts have been peer-reviewed and we thank the scientific committee members for their timely and thorough reviews. We would also like to thank our volunteers (Stefano Cignitti, Seyed S. Mansouri, Amata Anantpinijwatna, Maria-Ona Bertran, Rebecca Frauzem, Thomas Bisgaard and Xavi Flores-Alsina), without whose help this proceedings volume would not have been ready on time. Finally, we thank all the authors for their high quality manuscripts and for submitting them on time. We do hope the contents of this volume will serve as valuable reference to the scientific community and practitioners of systems engineering and a permanent record of the joint PSE-2015/ESCAPE-25 conference.

Krist V. Gernaey, Jakob K. Huusom & Rafiqul Gani
Department of Chemical & Biochemical Engineering
Technical University of Denmark, DK-2800 Lyngby, Denmark

7 March 2015
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