

Advanced Concurrent Engineering

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Daniel D. Frey · Shuichi Fukuda
Georg Rock
Editors

Improving Complex Systems Today

Proceedings of the 18th ISPE International
Conference on Concurrent Engineering

Assoc. Prof. Daniel D. Frey
Massachusetts Institute of Technology
Mass Ave 77, Room 3-449D
Cambridge, MA 02139
USA
e-mail: danfrey@mit.edu

Prof. Georg Rock
University of Applied Science Trier
Schneidershof
54293 Trier
Germany
e-mail: g.rock@inf.fh-trier.de

Consult. Prof. Shuichi Fukuda
Stanford University
228 Hamilton Ave
Palo Alto, CA 94301
USA
e-mail: shufukuda@cdr.stanford.edu

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Preface

Engineering has transformed the world so thoroughly that it is difficult to imagine our lives without its benefits. Most every action we take – meeting our basic needs for food and shelter, moving from one location to another, communicating with others, carrying out our work – all these have changed significantly over the past century and continue to change at a rapid pace today.

In many cases, the transformation of human activity by engineering has come about through creation of complex systems. For example, the infrastructures that provide clean water, electric power, and communication bandwidth are amazing due to their scale and complexity. Though we may pay these systems little attention in our daily lives, it is worthwhile to pause and take note of the chain of technical innovations and investments needed to bring them about and keep them in service.

Concurrent Engineering (CE) seeks to augment the successes of engineering by making our professional activities even more effective. Building on the engineering practices of the past, we seek to add insights from a diverse set of scholarly disciplines. The research practices of the social sciences help us to understand the engineering process more deeply as a human activity. Leveraging information technology ensures that information flows effectively, takes ever more useful forms, and can be visualized and shared. Today, CE concentrates on enterprise collaboration and its many different elements, from integrating people and processes to very specific complete multi/inter-disciplinary solutions. Each sub-discipline of engineering, science, and management has informed engineering practice in the past. CE seeks to ensure that record of successful integration will continue and intensify.

The conference CE2011 is a showcase for all the ways that research, development, and scholarship can advance the engineering profession in its broadest view. The theme of “Improving Complex Systems Today” is suggestive of the scale and ambition of the field as it is currently practiced. It is reflected in the papers presented here covering contemporary system design challenges such as sustainability, international development, and information technology. We hope readers will be inspired by the ideas in this proceedings and find many building blocks for further work.

Daniel Frey
General Chair, CE 2011
Massachusetts Institute of Technology, USA

Shuichi Fukuda
General Chair, CE 2011
Stanford University, USA

Georg Rock
Program Chair, CE 2011
University of Applied Science Trier, Germany

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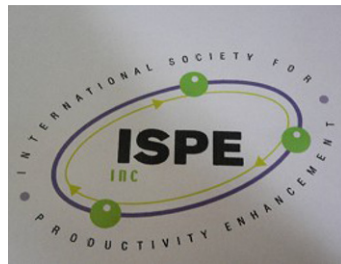
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