

# **Development of Industrial Manufacturing**

Edited by  
Seung-Bok Choi, Fauziah Shahul Hamid and Liyuan Han



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# **Development of Industrial Manufacturing**

Selected, peer reviewed papers from the  
2013 2<sup>nd</sup> International Conference on  
Sustainable Energy and Environmental Engineering  
(ICSEEE 2013),  
28-29 December, 2013, Shenzhen, China

*Edited by*

**Seung-Bok Choi, Fauziah Shahul Hamid and Liyuan Han**



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# Preface

With the continuing rapid expansion of the economy in the last decade and now the recovery after the recent downturn, many demands will be placed on energy services and the environment. The future will see a continuing challenge to balance growth with sustainability in the economic, social and environmental sectors. The International Conference on Sustainable Energy and Environmental Engineering (ICSEEE) aims to address global challenges in sustainable development by bringing together stakeholders from universities, industries, government agents and businesses that are involved in the invention, design, development and implementation of sustainable technologies. The first ICSEEE 2012 was held from December 29 to 30, 2012 in Guangzhou, and the second ICSEEE 2013 was held in Shenzhen from December 28 to 29, 2013. The presentations include development and utilization of solar energy, wind energy, biomass energy and other new energy, environmental safety and health, environmental planning and assessment, environmental restoration engineering, pollution control etc.

All papers had undergone the careful peer-review by expert referees to the professional and scientific standards before it is selected for publications in these volumes. Studies presented in this book cover these topics: Advanced Materials Research, Design and Research of Machinery and Equipments, Electric Vehicles, Building Materials and Construction Technologies, Heating, Air Conditioning and Refrigeration, Control and Automation, Computer Applications and Computational Algorithms in Design and Research for Industry, Engineering Management, etc.

We would like to express our sincere thanks to all participants for their contributions and stimulating discussions. We are also grateful to keynote speakers, referees, exhibitors, committee members and many others for their patience and efforts.

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# **CHAPTER 1:**

## **Advanced Materials Research**