

# 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 ICSEEE 2012 is held from December 29 to 30, 2012 in Guangzhou, 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 those volumes. Studies presented in this book cover these topics: Development and Utilization of Solar Energy, Development and Utilization of Biomass Energy, Development and Utilization of Wind Energy, Nuclear Energy, Hydrogen, Fuel Cell and Other New Energy, Energy Storage Technologies and Energy-Saving Technologies, Energy Materials and Energy Chemical Engineering, Energy Security and Clean Use, New Energy Vehicles and Electric Vehicles, Green Building, Energy-Saving Buildings and Construction Technology, Development and Management of the Energy and Resource Industry, Power System and Automation 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.

***The Committee of ICSEEE 2012***

2012 International Conference on  
Sustainable Energy and Environmental Engineering  
(ICSEEE 2012)

**Organized by:**

Guangdong University of Business Studies, China

**Conference Organization**

**Co-Chairmen**

Prof. Xiaochun Tang, Guangdong University of Business Studies, China

**Technical and Organizing Committee**

Prof. Yuxiang Dong, Sun Yat-sen University, China

Prof. Xiaohong Chen, Sun Yat-sen University, China

Prof. Zhongnuan Chen, South China Normal University, China

Prof. Dachang Zhuang, Guangdong University of Business Studies, China

Prof. Wei Zhong, South China Normal University, China

Prof. Chunsheng Li, Guangdong University of Business Studies, China

Prof. Xiuguo Wei, Guangdong University of Business Studies, China

Prof. Jinglong Bu, Hebei United University, China

Prof. Ming Dong, Shanghai Jiao Tong University, China

Prof. Boxue Du, Tianjin University, China

Prof. Lianguang Liu, North China Electric Power University, China

Prof. Xiaoming Jia, Hebei United University, China

Prof. Shaojian Ma, Guangxi University, China

Prof. Sihai Jiao, Research Institute, Baosteel, China

Prof. Yungang Li, Hebei United University, China

Prof. Shanqing Li, Research Institute, Baosteel, China

Prof. Yongchen Lin, Central South University, China

Prof. Xianghua Liu, Northeastern University, China

Prof. Lian'guang Liu, South China Electric Power University

Prof. Wenlei Sun, Xinjiang University, China

Prof. Kaiming Wu, Wuhan University of Science and Technology, China

Prof. Jun Wang, Northeastern University, China

Prof. Fushuan Wen, Zhejiang University, China

Prof. Qiang Wang, Jinan University, China

Prof. Gang Xu, Guangzhou Institute of Energy Conversion, CAS

Prof. Shaohui Yin, Hunan University, China

Prof. Heinz-Gunter, Brokmeier, Technische Universitat Clausthal, Germany

Prof. Sagar Kamarthi, Northeastern University, USA

Prof. Christian Kloc, Nanyang Technological University, Singapore

Prof. AKM Nurul Amin, International Islamic University, Malaysia

Dr. Chunsheng Lu, Curtin University of Technology, Australia

Prof. Geun Jo Han, Dong-A Univeristy, Korea

Prof. Ken-ichi Manabe, Tokyo Metropolitan University, Japan

Prof. Indra Putra Almanar, Universiti Sains Malaysia

Prof. Kyung-Man Moon, Korea Maritime University, Korea

Prof. Walid Mahmoud Shewakh, Beni Suef university, Egypt

Prof. Christian Kloc, Nanyang Technological University, Singapore

Prof. Jacques Noudem, CRISMAT laboratory, France

Prof. Sagar Kamarthi, Northeastern University, USA

Prof. Christian Kloc, Nanyang Technological University, Singapore

Prof. George A. O'Doherty, Northeastern University, USA.

Prof. Tetsuro Majima, Osaka University, Japan

Prof. Yunfeng Lu, University of California, Los Angeles, USA

Prof. Jimmy C. Yu, The Chinesees University of Hong Kong, Hong Kong

Prof. AKM Nurul Amin, International Islamic University, Malaysia

Dr. Chunsheng Lu, Curtin University of Technology, Australia

Prof. Jong Kook Lee, Chosun University, Korea

Prof. Ken-ichi Manabe, Tokyo Metropolitan University, Japan

Prof. Indra Putra Almanar, Universiti Sains Malaysia

Prof. Kyung-Man Moon, Korea Maritime University, Korea

Prof. Toshio Haga, Osaka Institute of Technology, Japan

Prof. Walid Mahmoud Shewakh, Beni Suef university, Egypt

Prof. Jacques Noudem, CRISMAT laboratory, France

Prof. Bo Zhang, South China University of China, China

## **Local Organizing Committee**

Prof. Dachang Zhuang, Guangdong University of Business Studies, China

Prof. Wei Zhong, South China Normal University, China

Prof. Chunsheng Li, Guangdong University of Business Studies, China

Prof. Xiuguo Wei, Guangdong University of Business Studies, China