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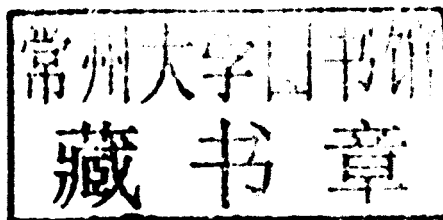
Advances in Printing and Packaging Technologies

Edited by
Ouyang Yun, Xu Min, Yang Li and Liu Xunting

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Advances in Printing and Packaging Technologies

Selected, peer reviewed papers from the
2nd China Academic Conference on
Printing and Packaging
(CACPP 2012),
October 19-20, 2012, Beijing, China



Ouyang Yun, Xu Min, Yang Li and Liu Xunting



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Preface

Initiated by China Academy of Printing Technology and Beijing Institute of Graphic Communication in 2010, “China Academic Conference on Printing and Packaging” is an academic conference focusing on the printing and packaging field. In 2012, with the joint effort of China Academy of Printing Technology, Beijing Institute of Graphic Communication, and Green Packing Branch of Chinese Society for Environmental Sciences, “2nd China Academic Conference on Printing and Packaging (CACPP2012)” was held on Oct.19-20, 2012 at the FLTRP International Convention Center in Beijing. Editorial board of *China Printing and Packaging Study* of Keyin Media, School of Printing and Packaging Engineering of Beijing Institute of Graphic Communication, and Food Science and Engineering College of Beijing University of Agriculture are the executive organizers of the conference.

With the rapid development of Chinese economy, the printing and packaging industry in China has maintained an annual growth at the rate of over 10%. In 2011, the gross output value of Chinese printing industry reached over RMB 860 billion (source: Printing and Printing Equipment Industries of China), increasing by 12% compared to the same period of the previous year. The industry scale has ranked the second over the world. With over 100 thousand enterprises and 3.7 million people engaged in the printing business, China has become one of the most important printing processing bases of the world. In the meantime, the gross output value of the packaging industry has exceeded RMB 1.3 trillion (source: China Packaging Federation), ranking the second in the world. However, the industrial structure is mainly composed by labor intensive enterprises engaged in processing and manufacturing. Compared with the advanced world levels, the printing and packaging industry in China is weak both in technological development and independent innovation. Besides, there is also a certain gap in the aspect of academic research. In the present time of economic globalization, we hope to promote the communication within the industry as well as people of the same trade by organizing academic event. “2010 China Academic Conference on Printing and Packaging” was an attempt and achieved the effects we expected for.

In accordance with the style of the first conference, “2nd China Academic Conference on Printing and Packaging (CACPP2012)” continued to focus on digital publishing, printing electrics, and environmentally friendly printing and packaging materials technologies. We invited Professor Phil Green from the Colour and Visual Computing Laboratory of Gjøvik University College in Norway, Mr. Donald J. Burns, scientific researcher of the high speed ink-jet system from the Kodak Group, Professor Norihisa Kobayashi from the Graduate School of Advanced Integration Science of Chiba University, and Yen WEI, the chair professor of Chemistry from the Tsinghua University to make keynote speeches. During the panel discussion, attendees made oral presentations on the topics of “Color Science and Technology” “Image Processing Technology” “Digital Technology” “Process Research and Standardization” “Mechanical Engineering and Numerical Control Technology” and “Materials and Detection Technology”.

The conference received 212 papers, including 4 keynote speeches and 208 oral presentations, among which 121 were selected to be published in *Applied Mechanics and Materials*.

Here we gratefully acknowledge all the organizations that have offered great support to the conference and they are: Printing Technology Association of China, School of Printing and Packaging of Wuhan University, Faculty of Printing and Packaging Engineering of Xi'an University of Technology, College of Communication and Art Design of University of Shanghai for Science and Technology, Zhengzhou Institute of Surveying and Mapping, Light Industry College of Harbin University of Commerce, College of Packaging and Printing Engineering of Tianjin University of Science and Technology, College of Light Industry and Food Sciences of South China University of Technology, School of Packaging & Material Engineering of Hunan University of Technology, School of Media and Design of Hangzhou Dianzi University, School of Light Industry of Zhejiang University of Science and Technology, College of Graphic Arts of Qufu Normal University, College of Papermaking Engineering of Shaanxi University of Science & Technology, College of Mechanical and Energy Engineering of Ningbo Institute of Technology of Zhejiang University, School of Internet of Things Engineering of Jiangnan University, College of Material Science & Engineering of Zhengzhou University, College of Materials Science and Engineering of Beijing University of Chemical Technology, School of Food and Chemical Engineering of Beijing Technology and Business University, College of Journalism & Communication of Chinese Culture University, National Taiwan University of Arts, and University of Leeds (UK), Technische Universität Darmstadt (Germany) and Chiba University (Japan).

We would also like to express our gratitude to the 34 experts from China, Germany, Britain, America, and Japan who reviewed and recommended papers for us with strict standards.

We also thank Trans Tech Publications Inc. for offering us a platform for international communication.

We are looking forward to meeting you again at the “2014 China Academic Conference on Printing and Packaging”.

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October 19, 2012

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Date October 19-20, 2012

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