

From the Editor

The last digital revolution, exemplified by the replacement of analog devices with digital tools, has substantially boosted labor productivity, improved industrial efficiency, and raised living standards. Driven by the aspiration to create a sustainable society, the digital printing and packaging industry is creating innovative mass customization solutions where each print job can be intelligently routed, reproduced, inspected, and distributed to individual recipients at diverse geological locations with reduced natural resource consumption and minimal human interference while satisfying image quality constraints. This new publishing process will also enable authors to focus on value-creation tasks of generating contents and free of any concerns with the laborious intermediate steps before their intellectual products reach target audience. The emerging paradigm shift in the digital printing and packaging industry will inevitably spark new technological challenges ranging from fundamental color imaging science, image understanding, visual perception, printing technologies to printing system optimization, workflow automation as well as digital content management and distribution. Extending from the two-dimensional nature, printing technologies have been on the research forefronts in prototype manufacturing, flexible electronic fabrication, bio-printing, and nano-printing. While scientific development in these fields holds exciting prospect in reshaping the future of human society, major technological challenges in material science and voxel rendition/formation process remain to be tackled. This can only be accomplished by intense multidisciplinary collaborations among researchers from physics, chemistry, electrical and mechanical engineering, and software engineering.

Digital printing technology is one of the main research foci of JIST. This Special Issue dedicated to the latest innovation in the printing and packaging technologies was the product of collaborations between *JIST* and the “12th China Academic Conference on Printing and Packaging” held in November 2021 at Beijing China. Articles published in this special issue include “Preparation and properties of waterborne varnish for on-demand inkjet printing” by Jilei Chao, Ruishi Shi, Fuqiang Chu, Yanling Guo and

Qian Deng, “Research on Printed Conductive Silver Layer Based on Inkjet Photo Paper” by Yi Fang, Lixin Mo, Zhiqing Xin, Yinjie Chen, Xiu Li, Yaling Li, Jitao Zhang, Kairui Chui and Luhai Li, “A full Printed Flexible Pressure Sensor with Improved Temperature Performance Based on Optimized Curing Mechanism” by Jingnan Ma, Mengmeng Liang and Wei Wang, “Coupling Modeling and Analysis of the Tension System for Roll-to-Roll Gravure Printing Machines” by Ziyu Wang, Shanhui Liu, Lei Feng, Zengqiang Zhang and Jiaqi Liu, “Green Preparation of Carbon Dots from Lycium Ruthenicum for Anti-counterfeiting” by Ting Guo, Xinyi Jiang, Xizolin Hu, Xinyu Sun, Liangzhe Chen, Xinghai Liu, “Research on Ink Absorption Effect of Adhesive on Foam Plastic Surface Coatings” by Qian Deng, Ruzhi Shi, Shijun Wang, Doudou Jin and Jilei Chao, “Reversible Thermochromic Ink Based on Crystal Violet Lactone/Boric Acid/Hexadecyl Alcohol for Anti-counterfeiting Printing” by Danfei Lie, Changfan Zhang, Siyuan Chen, Zijie Cui and Yunfei Zhong, “Research on Adaptive Component Analysis Method of Spectral Reflectance Reconstruction” by Haiwen Wang, Jie Li, Xiaoxia Wan, Ling Lu, “Dimensionality Reduction of Spectral Reflectance by Dividing the Error Space of Principle Component Analysis” by Junfeng Li, Miaoxin Li, Qian Cao, Shiwei Liu and Chunao Wei, “Effect of Polymerizable Emulsifiers on the Properties of Polyacrylate Latexes and the Relative Waterborne Inks” by Yongming Chen, Xiaoyu Li and Haiqiao Wang.

As the research focus of the IS&T Printing for Fabrication technical conference transits to digital fabrication and additive printing, this special issue on the latest innovation in printing and packaging applications provides a perfect opportunity for our readers to continue following technological advancement of this important industry and shaping its future direction.

Chunghui Kuo
Editor-in-Chief, *JIST*

[DOI: 10.2352/J.ImagingSci.Technol.2022.66.2.020101]