

## A letter from the Editor

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Dear Readers,

It is my pleasure to introduce the latest issue of the Journal of Print and Media Technology Research. As always, our goal is to present research that advances knowledge in the print and media technology domain, highlighting both theoretical insights and practical applications. The selection of articles in this issue is a good example of the continued innovation in our common industry.

In this edition, we feature three research contributions.

The first paper, by Rafikov, et al., examines the microstructure, morphology, and properties of printing paper laminated with polypropylene film. Their study explores how an ethylene–vinyl acetate (EVA) copolymer adhesive solution enhances adhesion, overcoming the challenges typically posed by glossy paper surfaces. Through FT-IR spectroscopic and SEM-EDS analysis, the authors provide evidence that micropore penetration significantly strengthens laminated structures, offering a valuable contribution to the field of packaging and print durability.

The second paper, by Dimić-Mišić, et al., delves into the interaction of natural plant dye inks, rich in anthocyanins, with calcium carbonate containing substrates. As the demand for sustainable and plant-based inks grows, understanding how these dyes interact with alkaline substrates becomes increasingly important. This study presents an analysis of color shifts, refractive index variations, and strategies for improving ink–substrate compatibility. With implications for packaging, textiles, and specialty printing, this research highlights the need for further development of natural dye technologies to meet industrial performance requirements.

Finally, Brandenburg’s research on the retroactive effect of variable tensile forces on lateral web motion and registration errors provides (again) fascinating insights into the stability of web-fed printing systems. By modeling the complex dynamics of transverse and longitudinal register errors, his study enhances our understanding of how tensile forces influence precision in continuous printing processes. These findings are particularly relevant for high-speed production environments where alignment accuracy is paramount.

Alongside these scientific contributions, our Topicalities section, curated by Markéta Držková, provides an overview of key industry developments. This issue highlights newly established and revised ISO standards in graphic technology, covering advancements in color reproduction, press calibration methods, and safety requirements for printing equipment. Additionally, this section reflects on insights from recent international conferences and technical forums, where automation, sustainability, and digital transformation in printing are the main topics.

In addition to these updates, we present highlights from recent doctoral dissertations, which further illustrate emerging research directions and technological

advancements. Antti Väisänen from the University of Eastern Finland explores chemical and particulate emissions in polymer-based 3D printing, shedding light on environmental and occupational safety challenges. Xinran Zhou, from Nanyang Technological University, develops 3D-printed piezoelectric energy harvesters with innovative kirigami and auxetic structures, advancing sustainable energy solutions for wearable electronics. Felix Braig of TU Darmstadt investigates solvent evaporation in printed liquid films using digital holographic interferometry, providing valuable insights for improving drying efficiency and print quality.

The Bookshelf section in this issue also introduces several noteworthy publications. Among them, *Motion and Path Planning for Additive Manufacturing* by Roschli, et al., offers practical insights into toolpath generation and advanced slicing techniques for additive manufacturing. Additionally, Laura S. Scherling's edited volume *Digital Transformation in Design Processes and Practices* explores the impact of digitalization on design workflows, presenting case studies on AI integration, digital typography, and evolving approaches to design education.

As we look ahead, the role of print media continues to evolve in response to technological advancements and shifting environmental priorities. The research featured in this issue not only contributes to academic discourse but also offers practical solutions to challenges faced by industry professionals. We remain committed to fostering collaboration between researchers and practitioners, ensuring that the journal serves as a bridge between innovation and application.

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