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# Computational Color Imaging

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The Special Section on Computation Color Imaging is focused on color image processing, color image quality assessment, color vision modeling, and color image reproduction. The range of applications for color imaging is wide open and includes digital photography, multimedia, visual communications, computer vision, cultural heritage, and consumer electronic industry. The special section was suggested by participants of the 2017 International Workshop on Computational Color Imaging (CCIW 2017). Among the eleven accepted papers, four are in fact extended versions of works presented at the workshop.

Several papers propose new descriptors for texture recognition or improvements to existing ones. An improved opponent color local binary patterns (LBP) is proposed by Bianconi et al. Negri et al. present a new color-texture descriptor based on the local mapped pattern (LMP) approach. Porebski et al. propose two features selection approaches based on multicolor space LBP.

Two papers proposed formalizations and variations of Retinex. Provenzi presents an overview of the different Retinex interpretations and the corresponding mathematical formalizations in terms of variational principles and partial differential equations (PDE). Lecca et al. present an implementation of Milano Retinex that uses the pixel intensity as a self-regulating threshold to deterministically sample local color information.

Bianco et al. present a method based on convolutional neural networks (CNNs) for the automatic restoration of images subjected to the application of photographic filters, such as those made popular by photo-sharing services.

Aberkane et al. propose the direct use of raw data to estimate the image partial derivatives for edge detection in Bayer color filter array images.

Dad et al. propose a parameter-free formulation of the quaternary orthogonal moments for color image retrieval and recognition.

Silva et al. propose an algorithm to be used as preprocessing to increase the contrast of potential Luminous Reflections (LR) regions. Li et al. propose a nonuniform multiview color texture mapping method for image sequences and point cloud 3D models.

The special section is completed with the paper by Ahmed et al. that proposes a novel method for superimposed projection mapping, which ensures that the projection-rendered results look visually close to the real objects.

We would like to thank all of the authors who have submitted articles to this special section. We also acknowledge all of the reviewers who have helped in the process of selecting and improving the submitted papers. Finally, we would like to thank the JEI editorial staff members for their help throughout the process.