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Shoji Tominaga · Raimondo Schettini
Alain Trémeau · Takahiko Horiuchi (Eds.)

Computational Color Imaging

7th International Workshop, CCIW 2019
Chiba, Japan, March 27–29, 2019
Proceedings

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Preface

We would like to welcome you to the proceedings of CCIW 2019, the Computational Color Imaging Workshop, held in Chiba, Japan, March 27–29, 2019.

This event, the seventh CCIW, was organized by Chiba University, Institute for Global Prominent Research at Chiba University, and Next Generation Research Incubator “Creation of Imaging Science and Technology for Material Appearance” at Chiba University with the endorsement of the International Association for Pattern Recognition (IAPR), the Color Science Association of Japan (CSAJ), the Groupe Français de l’Imagerie Numérique Couleur (GFNIC), Associazione Italiana per la ricerca in Computer Vision, Pattern recognition e machine Learning (CVPL) affiliated with IAPR, and the Special Interest Group on Foundations of Visual Information (SigFVI) affiliated with CSAJ.

Since the first Computational Color Imaging Workshop was organized in 2007 in Modena, Italy, CCIW has been held every other year in Italy, France, and Japan.

The aim of the workshop was to bring together engineers and scientists of various imaging companies and technical communities from all over the world to discuss diverse aspects of their latest work, ranging from theoretical developments to practical applications in the field of computational color imaging, including multispectral imaging, appearance modeling, and color image processing. The field is based on knowledge not only of computer science but also of human vision and perception, neuroscience, and optics.

There were many excellent submissions of high scientific level, and each paper was peer-reviewed. However, because of the time slot constraint, only the best 22 papers were selected for the presentation at the workshop. The final decision of which paper to be chosen was based on the criticisms and recommendations of the reviewers, and the content relevance of the particular paper to the goal of the workshop. Only 64% of the papers submitted were accepted for inclusion in the program.

Seven different sessions were organized to present an overview of current research directions:

- Computational Color Imaging
- Multispectral Imaging
- Perceptual Model and Application
- Color Image Evaluation
- Color Image Filtering
- Color Image Applications
- Color Imaging for Material Appearance

In addition to the contributed papers, eight distinguished researchers were invited to this seventh CCIW to deliver keynote speeches on current hot research directions of the topics on computational color imaging:

Tutorials

- Shin'ya Nishida, on "Image Features for Human Material Perception"
- Roland W. Fleming, on "Visual Perception of Materials and Their Properties"
- Ming Ronnier Luo, on "Status Quo of Color Appearance Modeling"
- Ko Nishino, on "Freeing Computer Vision from Its Fundamental Limits"

Invited talks

- Takayuki Okatani, on "Improving Generalization Ability of Deep Neural Networks for Visual Recognition Tasks"
- Mathieu Hébert, on "How Microarrangement of Colored Materials Influences the Macroscopic Color of a Surface"
- Daisuke Iwai, on "Computational Imaging in Projection Mapping"
- Jon Y. Hardeberg, on "On the Acquisition and Reproduction of Material Appearance"

There are many organizations and people who have helped us in the planning of this meeting. Among them, we are pleased to acknowledge the generous support of the University of Milano-Bicocca, Italy, the University Jean Monnet at Saint Etienne, and the Laboratoire Hubert Curien, France, and Chiba University, Japan.

March 2019

Shoji Tominaga
Raimondo Schettini
Alain Trémeau
Takahiko Horiuchi

Organization

CCIW 2019 was organized by Chiba University, Japan, in cooperation with the University of Milano-Bicocca, Italy, and the University of Saint Etienne, France.

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Tutorials

Shin'ya Nishida	NTT Communication Science Laboratories, Japan
Roland W. Fleming	University of Giessen, Germany
Ming Ronnier Luo	Zhejiang University, China/Leeds University, UK
Ko Nishino	Kyoto University, Japan

Invited Talks

Takayuki Okatani	Tohoku University, Japan
Mathieu Hébert	University Jean Monnet of Saint-Etienne, France
Daisuke Iwai	Osaka University, Japan
Jon Y. Hardeberg	NTNU, Norway

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 The Color Science Association of Japan
 Association Française pour la Reconnaissance et l’Interprétation des Formes (AFRIF)
 Special Interest Group on Foundations of Visual Information, CSAJ, Japan

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