



# CCIW 2019

IAPR The Seventh Computational Color Imaging Workshop  
27-29 March 2019, Chiba, Japan

Advance Program



# CCIW 2019

## **IAPR The Seventh Computational Color Imaging Workshop**

**Date : 27-29 March 2019**

**Venue : Keyaki Kaikan (Univ. Hall), Chiba University, Chiba, Japan**

**Website : <http://dippix.tp.chiba-u.jp/CCIW2019/>**

### **CCIW2019 Co-Chairs :**

Shoji Tominaga, NTNU, Gjøvik, Norway

Raimondo Schettini, University of Milano Bicocca, Milano, Italy

Alain Trémeau, Université Jean Monnet, Saint Etienne, France

Takahiko Horiuchi, Chiba University, Chiba, Japan

### **Tutorials :**

Dr. Shin'ya Nishida, NTT Communication Science Laboratories

Prof. Roland W. Fleming, University of Giessen

Prof. Ming Ronnier Luo, Zhejiang University / Leeds University

Prof. Ko Nishino, Kyoto University

### **Invited Talks :**

Prof. Takayuki Okatani, Tohoku University

Prof. Mathieu Hébert, University Jean Monnet of Saint-Etienne

Prof. Daisuke Iwai, Osaka University

Prof. Jon Y. Hardeberg, Norwegian University of Science and Technology

### **Oral Sessions :**

Computational Color Imaging

Multispectral Imaging

Perceptual Model and Application

Color Image Evaluation

Color Image Filtering

Color Image Applications

Color Imaging for Material Appearance

## Endorsement by



## Special Support by



Institute for Global Prominent Research,  
Chiba University

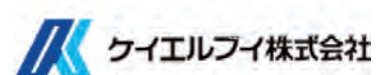
## Published in



## Sponsors



## Exhibitors



## Schedule at a Glance

### March 27, 2019: Special Tutorial on Material Appearance

- Tutorial 1 :  
Dr. Shin'ya Nishida, NTT Communication Science Labs, Japan  
*"Image Features for Human Material Perception"*
- Tutorial 2 :  
Prof. Roland W. Fleming, University of Giessen, Germany  
*"Visual Perception of Materials and their Properties"*
- Tutorial 3 :  
Prof. Ming Ronnier Luo, Zhejiang University, China / Leeds University, UK  
*"Status Quo of Colour Appearance Modelling"*
- Tutorial 4 :  
Prof. Ko Nishino, Kyoto University, Japan  
*"Freeing Computer Vision from Its Fundamental Limits"*
- Reception

### March 28, 2019: Day1

- Invited Talk 1 :  
Prof. Takayuki Okatani, Tohoku University, Japan  
*"Improving Generalization Ability of Deep Neural Networks for Visual Recognition Tasks"*
- Invited Talk 2 :  
Prof. Mathieu Hébert, University Jean Monnet of Saint-Etienne, France  
*"How Microarrangement of Colored Materials Influences the Macroscopic Color of a Surface"*
- Oral Sessions :  
Computational Color Imaging, Multispectral Imaging,  
Perceptual Model and Application, Color Image Evaluation

### March 29, 2019: Day2

- Invited Talk 3 :  
Prof. Daisuke Iwai, Osaka University, Japan  
*"Computational Imaging in Projection Mapping"*
- Invited Talk 4 :  
Prof. Jon Y. Hardeberg, Norwegian University of Science and Technology, Norway  
*"On the Acquisition and Reproduction of Material Appearance"*
- Oral Sessions :  
Color Image Filtering, Color Image Applications,  
Color Imaging for Material Appearance
- Round table

Date	Wed. 27 March	Thu. 28 March	Fri. 29 March
Venue	Keyaki Hall, Chiba Univ.	Keyaki Hall, Chiba Univ.	Keyaki Hall, Chiba Univ.
Event	CCIW2019 Tutorial	CCIW2019 Day 1	CCIW2019 Day 2
8:00		8:00 Registration Open	
8:30		8:50 Welcome Remarks	8:30 Registration Open
9:00	9:00 Registration Open	9:00-9:40 (40min) Invited Talk 1 Prof. Takayuki Okatani	9:00-9:40 (40min) Invited Talk 3 Prof. Daisuke Iwai
9:30	9:30-10:45 (75min) Tutorial 1 Dr. Shin'ya Nishida	Coffee Break (30min)	Coffee Break (30min)
10:00		10:10-11:10 (60min) Oral 1 (3 Papers) Computational Color Imaging	10:10-11:10 (60min) Oral 5 (3 Papers) Color Image Filtering
10:30			
11:00	Coffee Break (30min)	Break	Break
11:30	11:15-12:30 (75min) Tutorial 2 Prof. Roland W. Fleming	11:30-12:30 (60min) Oral 2 (3 Papers) Multispectral Imaging	11:30-12:30 (60min) Oral 6 (3 Papers) Color Image Applications
12:00			
12:30	12:30-14:00 (90min) Lunch Break	12:30-14:00 (90min) Lunch Break	12:30-14:00 (90min) Lunch Break
13:00			
13:30			
14:00	14:00-15:15 (75min) Tutorial 3 Prof. Ming Ronnier Luo	14:00-14:40 (40min) Invited Talk 2 Prof. Mathieu Hébert	14:00-14:40 (40min) Invited Talk 4 Prof. Jon Y. Hardeberg
14:30		14:40-15:40 (60min) Oral 3 (3 Papers) Perceptual Model & Application	14:40-16:00 (80min) Oral 7 (4 Papers) Color Imaging for Material Appearance
15:00			
15:30	Coffee Break (30min)	Coffee Break (30min)	Coffee Break (30min)
16:00	15:45-17:00 (75min) Tutorial 4 Prof. Ko Nishino	16:10-17:10 (60min) Oral 4 (3 Papers) Color Image Evaluation	16:30-17:00 (30min) Round Table
16:30			
17:00		(17:10 End)	17:00 Closing (17:10 End)
17:30	17:30-19:30 (120min) Reception @Restaurant Corza (Chiba Univ.)		
18:00			
18:30			
19:00		<b>Notes:</b> Tutorial: 75min × 4 talks,    Invited: 40min × 4 talks, Oral: 20min × 22 talks (Day1: 12 talks, Day2: 10 talks)	
19:30	(19:30 End)		

## Workshop Program

### March 27, 2019 : CCIW2019 Tutorial

#### 9:30 - 10:45 Tutorial 1

" Image Features for Human Material Perception," *Shin'ya Nishida*

(10:45 - 11:15 Coffee Break)

#### 11:15 - 12:30 Tutorial 2

" Visual Perception of Materials and their Properties," *Roland W. Fleming*

(12:30 - 14:00 Lunch Break)

#### 14:00 - 15:15 Tutorial 3

" Status Quo of Colour Appearance Modelling," *Ming Ronnier Luo*

(15:15 - 15:45 Coffee Break)

#### 15:45 - 17:00 Tutorial 4

" Freeing Computer Vision from Its Fundamental Limits," *Ko Nishino*

#### 17:30 - 19:30 Reception

### March 28, 2019 : CCIW2019 Day1

#### 8:50 - 9:00 Welcome Remarks

#### 9:00 - 9:40 Invited Talk 1

"Improving Generalization Ability of Deep Neural Networks for Visual Recognition Tasks," *Takayuki Okatani*

(9:40 - 10:10 Coffee Break)

#### 10:10 - 11:10 Oral Session 1 : Computational Color Imaging

"An Imaging System for Fourier Coefficients of Spectral Reflectance,"

*Akira Kimachi, Motonori Doi and Shogo Nishi*

"Finding a Colour Filter to Make a Camera Colorimetric by Optimisation,"

*Graham D. Finlayson and Yuteng Zhu*

**"Conditional Color Gamut for Color Management of Multiview Printed Images,"**  
*Nicolas Dalloz and Mathieu Hébert*

**(11:10 - 11:30 Break)**

**11:30 - 12:30 Oral Session 2 : Multispectral Imaging**

**"Acquisition of 3D Data and Spectral Color by Using RGBD Camera and Programmable Light Source,"** *Motonori Doi , Norifumi Nishida, Akira Kimachi and Shogo Nishi*

**"HDR Spectral Video Measurement System,"**  
*Takayuki Tsuruta, Yoshitsugu Manabe and Noriko Yata*

**"Spectral Estimation of Chromatically Adapted Corresponding Colors,"**  
*Tanzima Habib and Phil Green*

**(12:30 - 14:00 Lunch Break)**

**14:00 - 14:40 Invited Talk 2**

**"How Microarrangement of Colored Materials Influences the Macroscopic Color of a Surface,"** *Mathieu Hébert*

**14:40 - 15:40 Oral Session 3 : Perceptual Model and Application**

**"Using the Monge-Kantorovitch Transform in Chromagenic Color Constancy for Pathophysiology,"** *Ghalia Hemrit, Futa Matsushita, Mihiro Uchida, Javier Vazquez-Corral, Han Gong, Norimichi Tsumura and Graham D. Finlayson*

**"Chromatic Adaptation in Colour Management,"**  
*Phil Green and Tanzima Habib*

**"Web Browsers Colorimetric Characterization,"**  
*Philippe Colantoni and Alain Tremeau*

**(15:40 - 16:10 Coffee Break)**

**16:10 - 17:10 Oral Session 4 : Color Image Evaluation**

**"Evaluation of Automatic Image Color Theme Extraction Methods,"**  
*Gianluigi Ciocca, Paolo Napoletano and Raimondo Schettini*

**"Long-Term Face Image Analysis Based on Canonical Correlation Analysis on Physical and Psychological Evaluation of Face,"** *Ikumi Nomura, Yuri Tatsuzawa, Nobutoshi Ojima, Takeo Imai, Keiko Ogawa and Norimichi Tsumura*

**"A Novel Digital-Camera Characterization Method for Pigment Identification in Cultural Heritage,"** *Emanuela Manfredi, Giovanni Petrillo and Silvana Dellepiane*

## March 29, 2019 : CCIW2019 Day2

### 9:00 - 9:40 Invited Talk 3

"Computational Imaging in Projection Mapping,"

*Daisuke Iwai*

(9:40 - 10:10 Coffee Break)

### 10:10 - 11:10 Oral Session 5 : Color Image Filtering

"Learning Parametric Functions for Color Image Enhancement,"

*Simone Bianco, Claudio Cusano, Flavio Piccoli and Raimondo Schettini*

"Haze Transfer Between Images Based on Dark Channel Prior,"

*Koushirou Maeda, Keita Hirai and Takahiko Horiuchi*

"Physically Plausible Dehazing for Non-physical Dehazing Algorithms,"

*Javier Vazquez-Corral, Graham D. Finlayson, and Marcelo Bertalmio*

(11:10 - 11:30 Break)

### 11:30 - 12:30 Oral Session 6 : Color Image Applications

"Evaluating CNN-based Semantic Food Segmentation Across Illuminants,"

*Gianluigi Ciocca, Davide Mazzini and Raimondo Schettini*

"Color-base Damage Feature Enhanced Support Vector Classifier for Monitoring Quake Image," *Takato Yasuno, Masazumi Amakata, Junichiro Fujii and Yuri Shimamoto*

"Colorization of High-Frame-Rate Monochrome Videos Using Synchronized Low-Frame-Rate Color Data," *Ching-Fan Chiang, Yang-Ming Yeh, Chi-Yun Yang and Yi-Chang Lu*

(12:30 - 14:00 Lunch Break)

### 14:00 - 14:40 Invited Talk 4

"On the Acquisition and Reproduction of Material Appearance,"

*Jon Y. Hardeberg*

### 14:40 - 16:00 Oral Session 7 : Color Imaging for Material Appearance

"Reflectance computation for a specular only V-cavity,"

*Dorian Saint-Pierre, Lionel Simonot and Mathieu Hébert*

"Makeup Skin Appearance Reproduction by Spectral Projection Mapping,"

*Hiroki Shirasawa, Keita Hirai and Takahiko Horiuchi*



**"Evaluating the Material Appearance of Objects Under Different Lighting Distributions Against Natural Illumination,"** *Takashi Yamazoe, Tomohiro Funaki, Yuki Kiyasu and Yoko Mizokami*

**"Material Appearance Transfer with Visual Cortex Image,"**  
*Hiroaki Kotera*

**(16:00 - 16:30 Coffee Break)**

**16:30 - 17:00 Round Table**

**17:00 - 17:10 Closing Remarks**

# Chiba University

## Nishi-Chiba Campus

**CCIW2019**

Date : 27-29 March 2019

Venue : Keyaki Kaikan (Univ. Hall)

(7-min walk from JR Nishi-Chiba Station)

(7-min walk from Keisei Midori-Dai Station)

