

The Papers Program

PLENARY SESSION

Wednesday June 25, 10:00-10:45, Room: Fuji

Session Chair: Koichi TAKIGUCHI, Fuji XEROX Co., Ltd.

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|------------|--|---|-------|
| K-1 | HP's SPT and Edgeline technology with emphasis on photo finishing | 1 | 10:00 |
| | Rob Beeson, Hewlett-Packard Company (USA) | | |

Thursday June 26, 9:30-10:15, Room: Fuji

Session Chair: Koji HIRAKURA, Ricoh Company, Ltd.

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|------------|---|---|------|
| K-2 | Digital Printing Technology Trends of Drupa 2008 | 4 | 9:30 |
| | Masahiko SAKURAZAWA, Dainippon Screen MFG Co., Ltd. (Japan) | | |

Friday June 27, 9:30-10:15, Room: Fuji

Session Chair: Masaaki YOKOYAMA, Center for Advanced Science and Innovation, Osaka University

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|------------|---|---|------|
| K-3 | 50 Years of Toner Adhesion Control in Electrophotography | 6 | 9:30 |
| | Lawrence Schein, Independent Consultant (USA) | | |

TOPICAL SESSION

Wednesday June 25, 10:50-12:20, Room: Fuji

Session Chair: Takao ABE, Shinshu University

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|------------|--|----|-------|
| S-1 | Recent Silver-halide Printing Technology for Digital Photography, | 14 | 10:50 |
| | Yasuharu Iwaki, Makoto Yamada, Hideto Ikoma, FUJI FILM Corporation (Japan) | | |
| S-2 | Recent Thermal Printing Technology for Digital Photography, | 22 | 11:20 |
| | Akio HITACHI, Sony Corporation (Japan) | | |
| S-3 | Digital Halftoning for Photo Printing on Electro-Photographic Printer | 26 | 11:50 |
| | Naoto KAWAMURA, Canon Inc. (Japan) | | |

REGIONAL SESSION

Thursday June 26, 10:20-12:00, Room: Fuji

Session Chair: Takashi KITAMURA, Chiba University

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|------------|--|----|-------|
| S-4 | New Imaging Technologies Powered by Digital Techniques, | 30 | 10:20 |
| | E.G. Hanson, President of IS&T, Hewlett-Packard Company (USA) | | |

S-5	Imaging and Related Industries in China, Jia-Ling Pu, Beijing Institute of Graphic Communication (China)	34	10:45
S-6	Three dimensional imaging technologies in Korea, Hyunjin Oh, Eunkyong Kim, Yonsei University (Korea)	36	11:10
S-7	Applications of Nanotechnology in Imaging Process at Saigon Hi-Tech Park Research Laboratory, Khe Nguyen, Saigon Hi-Tech Park Research Lab. (Vietnam)	40	11:35

ISJ 50th Anniversary Special Talk

Thursday June 26, 14:45-15:15, Room: Fuji-E

Chair: Takashi Kitamura, Chiba University

"Earth", Toshibumi Sakata, Tokai University Research and Information Center (Japan)

TECHNICAL SESSION

In the following program, papers of each track are listed basically in order of presentation date. Each paper has a number such as Tr.n-m in which n denotes the track number and m denotes the paper number at each track.

Tr. n-m(V) stands for paper to be invited paper.

Tr. n-m(P) stands for paper to be interactive (poster) paper.

For the interactive papers, each start time presented in the following program denotes the time for the short preview talk. The interactive discussion will be held separately (see the time table).

TRACK I Imaging Systems

INK JET (1)

Wednesday June 25, 13:35-14:50, Room:Fuji

Session Chairs: Masahiko FUJII, Fuji XEROX Co., Ltd. and Hiroshi TAKEUCHI, Konica Minolta IJ Technologies, Inc.

Tr.1-101(V)	Recent Developments and Trends for Ink Jet Printing Technologies (Invited), Hue Le, PicoJet Inc. (USA)	46	13:35
Tr.1-102	Next-generation ink jet printhead using thin film piezo elements, Motonori Okumura, Tomoaki Takahashi, SEIKO EPSON CORPORATION (Japan)	48	14:05
Tr.1-103	Thin Film Piezo Inkjet Printhead having Matrix Nozzle Arrangement using MEMS Technology, Shinji Seto, Hirofumi Nakamura, Michiaki Murata, Naoki Morita, Fuji Xerox Co.,Ltd. (Japan)	52	14:25
Tr.1-104(P)	Preparation of Electro-conductive Inkjet Inks through Silver Halide Photographic Emulsion (Interactive), Shusaku Tsuruga, Takao Abe, Shinshu University (Japan)	56	14:45*

ON DEMAND & INDUSTRIAL PRINTING

Wednesday June 25, 15:05-16:45, Room: Fuji

Session Chairs: Tomofumi TOKIYOSHI, Oji Paper Co., Ltd. and Masaru ONISHI, Mimaki Engineering Co., Ltd.

Tr.1-105(V)	On Demand and Industrial Printing- Win using Kodak Inkjet Solutions (Invited) , Anir Dutta, Don Allred, Eastman Kodak Company (USA)	60	15:05
Tr.1-106	Kodak NexPress Fifth Imaging Unit Solutions , David S. Weiss, Eastman Kodak Company (USA)	62	15:35
Tr.1-107	Highly Reliable and Resolvable Imaging Process Technology of Ultra-High-Speed Continuous-Feed Laser Printers for Professional Use , Takeshi Mochizuki, Teruaki Mitsuya, Ricoh Printing Systems, Ltd. (Japan)	64	15:55
Tr.1-108(V)	Quality, speed, productivity - recent Xeikon digital color press and toner technologies (Invited) , Sunny Moon, Punch Graphix (Australia), Taka Muramatsu, Punch Graphix Japan Co., Ltd. (Japan)	68	16:15

DIRECT MARKING & NOVEL PRINTING

Thursday June 26, 13:00-14:30, Room: Fuji-E

Session Chairs: Setsuji TATSUMI, Fuji Film Corporation and Hirotoishi TERA O, Alps Electric Co., Ltd.

Tr.1-201(V)	ZINK Imaging - Printing with "Zero Ink" (Invited) , Stephen R. Herchen, William T. Vetterling, John L. Marshall, ZINK Imaging, Inc. (USA)	70	13:00
Tr.1-202	Simulation on relationship between pixel density and toner size in the magnetic printer (2) , Norio Kokaji, Meisei University (Japan)	74	13:30
Tr.1-203	Printing system for industrial use , TETSUYA MATSUYAMA, Dai Nippon Printing Co., Ltd., Toshiyuki Watanabe, Tokyo University of Agriculture and Technology (Japan)	78	13:50
Tr.1-204	Development of a thermal print head by 3D thermal analysis , Hirotoishi Terao, Hisashi Hoshino, Alps Electric Co., Ltd. (Japan)	82	14:10

ISJ 50th Anniversary Special Talk

Thursday June 26, 14:45-15:15, Room: Fuji-E

Chair: Takashi Kitamura, Chiba University
"Earth", Toshibaumi Sakata, Tokai University Research and Information Center (Japan)

86 14:45

ELECTROPHOTOGRAPHY PROCESS (1)

Thursday June 26, 13:00-14:30, Room: Fuji-W

Session Chairs: Akiteru FUJII, Mitsubishi Chemical Corporation and Yoshihiro HATTORI, Konica Minolta Business Technologies, Inc.

Tr.1-205(V)	High Speed Duplex Printing (Invited) , Hiroshi NORO, Océ-Japan Corporation (Japan)	88	13:00
Tr.1-206	Ricoh SD-development technology for image quality , Kohichi Utsunomiya, Yuki Oshikawa, Yutaka Takahashi, Satoru Yoshida, Emi Kita, Kiyonori Tsuda, Junichi Terai, Shinji Tamaki, Kohichi Katoh, Tomoji Ishikawa, Ricoh Company, Ltd. (Japan)	92	13:30

Tr.1-207	Analysis of Developers Mixing Behavior in Two-component Electrophotographic System by Parallel Discrete Element Method, Hiroshi Mio, Keihanna Interaction Plaza Inc., Ryohei Higuchi, Wakana Ishimaru, Atsuko Shimosaka, Yoshiyuki Shirakawa, Jusuke Hidaka, Doshisha University (Japan)	96	13:50
Tr.1-208	Transferred image simulation using coupling 2-D and 3-D models, Shinji Aoki, Ichiro Maeda, Masaki Sukesako, Masami Kadonaga, Ricoh Company, Ltd. (Japan)	100	14:10

ELECTROPHOTOGRAPHY PROCESS (1)

Thursday June 26, 14:45-15:35, Room: FUJI-E

Session Chairs: Takeshi MENJO, Canon Inc. and Akiteru FUJII, Mitsubishi Chemical Corporation

Tr.1-209(P)	Initial Behavior of Corona Discharge Characteristics (Interactive), Song JIANG, Jing-chen HUANG, Yasushi HOSHINO, Nippon Institute of Technology (Japan)	104	14:45*
Tr.1-210(P)	Stability Improvement of Electrical Conductivity Type Charging Rollers in Varying Environmental Conditions (Interactive), Shinya Kobayashi, Yasuo Takuma, Hiroyuki Mabuchi, Ricoh Printing Systems, LTD. (Japan)	108	14:50*
Tr.1-211(P)	Charging Characteristics of Fatigued Photo- conductors (Interactive), Zbig Tokarski, Yong- Jin Ahn, Samsung Electronics (S.Korea)	112	14:55*
Tr.1-212(P)	Triboelectrification Behavior of Polystyrene Films Doped with Various Carboxylic Acids (Interactive), Yudai Teramoto, Katsuyoshi Hoshino, Chiba University (Japan)	116	15:00*
Tr.1-213(P)	Toner Charge Distribution Variation on Toner Mixing Conditions (Interactive), Disna Jayampathi Karunanayake, Li Chun-Wei, Osamu Hoshino, Tetsuya Onoda, Yasushi Hoshino, Nippon Institute of Technology (Japan)	118	15:05*
Tr.1-214(P)	Application of focused ion beam for imaging internal microstructure of electro- photo_ graphic materials (Interactive), Sowon Sheen, JunCheol Bae, Masahiko Itaya, Samsung Electronics Co., LTD. (S.Korea)	122	15:10*
Tr.1-215(P)	Numerical analysis about influence of the electric charge positions in a toner particle (Interactive), Kazuteru Kurihara, Takuya Goto Satoru Furuya, Kentaro Hasegawa, Chihiro Komori, Oki Data Co. (Japan)	124	15:15*
Tr.1-216(P)	Dynamics of Toner Particles in Magnetic Single Component Development System (Interactive), Takatoshi Miwa, Masatomo Teshima, Tomohiko Sugiyama, Yuka Ochiai, Hiroyuki Kawamoto, Waseda University (Japan)	128	15:20*
Tr.1-217(P)	Software Development of Magnetic Brush Simulator in Two- component Electro_ photo_ graphic System (Interactive), Hiroshi Mio, Keihanna Interaction Plaza Inc., Junpei Kawamura, Atsuko Shimosaka, Yoshiyuki Shirakawa, Jusuke Hidaka, Doshisha University (Japan)	132	15:25*
Tr.1-218(P)	Analysis of Structures and Gonio-spectrum Images in Electrophotography Prints (Interactive), Jun Hirabayashi, Megumi Ito, CANON INC. (Japan)	136	15:30*

ELECTROPHOTOGRAPHY MATERIAL (1)

Friday June 27, 10:20-11:50, Room: Fuji

Session Chairs: Andronique IOANNIDIS, Xerox Corporation, and Tatsuya TADA, Canon Inc.

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|--------------------|---|-----|--------|
| Tr.1-301(V) | High Resolution Electrophotography: Effects of Surface Energy and Surface Charge in Micronization, Mixing, and Charge Control of Micro-Toner for Image Development (Invited) , M. K. Mazumder ¹ , Y. Hoshino ² , P. K. Srirama ¹ , I. Hidetaka ¹ , R. Sharma ¹ , ¹ University of Arkansas (USA), ² Nippon Institute of Technology (Japan) | 140 | 10:20 |
| Tr.1-302(V) | Development of the Dust Particle Analyzer (Invited) , Charles R. Buhler, NASA Kennedy Space Center, M. K. Mazumder, University of Arkansas, J. S. Clements, Appalachian State University, P. K. Srirama, University of California, Albert Chen, Oklahoma Baptist University (USA) | 144 | 10:50 |
| Tr.1-303 | Study on charging mechanism of Toner: DC Bias Effect on the charge-relaxation process , Tatsushi Hasegawa, Nobuaki Watanabe, Oki Electric Industry Co.,Ltd, Chihiro Komori, Oki Data Corporation (Japan) | 148 | 11:20 |
| Tr.1-304(P) | Development of the 2nd generation Full-Color PxP Toner (Interactive) , Masahide Yamada, Toshiki Nanya, Naohito Shimota, Osamu Uchinokura, Akinori Saitoh, Junichi Awamura, RICOH COMPANY,LTD. (Japan) | 152 | 11:40* |
| Tr.1-305(P) | Synthesis of Water Soluble Phenolic Resin and Its Imaging Performance (Interactive) , Li Zhong-Xiao, An Li, Pu Jia-Ling, Beijing Institute of Graphic Communication (China) | 156 | 11:45* |

ELECTROPHOTOGRAPHY MATERIAL (2)

Friday June 27, 13:00-14:05, Room: Fuji-E

Session Chairs: David S. WEISS, Eastman Kodak Company and Masaaki YOKOYAMA, Center for Advanced Science and Innovation, Osaka University

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|--------------------|---|-----|--------|
| Tr.1-306 | Polyester Synthesis by Low-temperature with Catalyzed Surfactant Type Brønsted Acid and the Application to Toner Binder Resin , Hirotaka MATSUOKA, Yuki SASAKI, Hideo MAEHATA, Satoshi HIRAOKA, Fumiaki MERA, Yasuo MATSUMURA, Fuji Xerox Co.,Ltd. (Japan) | 160 | 13:00 |
| Tr.1-307 | Charge Recombination in Photo-induced Discharge of Photoreceptors for Digital Electrophotography (I) Dual-layer Photo_receptors Photoreceptors , Takahito Miyamoto, Mitsuru Narita, Takashi Obinata, Yutaka Ikeda, Toshiki Obinata, Fuji Electric Device Technology Co. Ltd. (Japan), Inan Chen, Consultant(USA) | 164 | 13:20 |
| Tr.1-308(P) | Charge Recombination in Photo-induced Discharge of Photoreceptors for Digital Electrophotography (II) Single-layer (Inter_active) , Yasushi Tanaka, Mitsuru Narita, Yoichi Nakamura, Seizo Kitagawa, Keiichi Morita, Fuji Electric Device Technology Co. Ltd. (Japan), Inan Chen, Consultant (USA) | 168 | 13:40* |
| Tr.1-309(P) | Crystal structure of an azo-Cr complex used as a charge control agent and its electrical properties (Interactive) , Shinpei Ito, Yohei Sato, Jin Mizuguchi, Yokohama National University (Japan) | 172 | 13:45* |
| Tr.1-310(P) | Crystal structure of a salicylic acid derivative Al-complex used as a charge control agent and its electrical properties (Interactive) , Yuya Kamei, Jin Mizuguchi, Yokohama National University (Japan) | 176 | 13:50* |

- Tr.1-311(P) Thermal stability of tetra-alkyl ammonium salts used charge-control agents as viewed from their crystal structures (Interactive),** Kazuya Uta, Yohei Sato, Jin Mizuguchi, Yokohama National University (Japan) 180 13:55*
- Tr.1-312(P) The role of cations in thermal stability of azo Fe-complexes used as charge-control agents from the standpoint of the crystal structure (Interactive),** Yohei Sato, Kazuya Uta, Jin Mizuguchi, Yokohama National University (Japan) 184 14:00*

ELECTROPHOTOGRAPHY PROCESS (2)

Friday June 27, 15:35-16:45, Room: Fuji-E

Session Chairs: Yoshihiro HATTORI, Konica Minolta Business Technologies, Inc. and Yukio NAGASE, Canon Inc.

- Tr.1-313(V) Aging of Donor Rolls for Single-Component Development in Electrophotography (Invited),** Inan Chen, Ming-Kai Tse, Quality Engineering Associates (QEA) Inc. (USA) 188 15:35
- Tr.1-314 Electrostatic Force on a Toner Particle with Nonuniform Charge Distribution,** Boonchai TECHAUMNAT, University of Tokyo and Chulalongkorn University, Masami Kadonaga, Ricoh Company, Ltd., Masao Washizu, Tadasu Takuma, Tokyo Denki University (Japan) 192 16:05
- Tr.1-315 Optimum Heater designing for Low Energy Consumption Fuser,** Yasumasa Otsuka, Toshihiko Ochiai, Tetsuya Sano, Yuuki Nishizawa, Canon INC. (Japan) 196 16:25

INK JET (2)

Friday June 27, 15:35-16:35, Room: Fuji-W

Session Chairs: Shin-ichi OKADA, DIC Corporation and Masahiko FUJII, Fuji XEROX Co., Ltd.

- Tr.1-316 Improvement of jetting reliability against ink viscosity increase by installation of an ink circulation path,** Susumu Hirakata, Masakazu Okuda, Hirofumi Nakamura, Toshinori Ishiyama, Shinji Seto, Naoki Morita, Fuji Xerox Co., Ltd. (Japan) 200 15:35
- Tr.1-317 Development of New Cationic UV Curable Inkjet Ink,** Atsushi Nakajima, Atsushi Tomotake, Shuji Kida, Konica Minolta IJ Technologies, Inc. (Japan) 204 15:55
- Tr.1-318 Ink Jet pigment development based on Triple S concept,** Daisuke Harada, Eiichi Shimizu, Kohei Ohtsuka, Clariant Japan K.K (Japan), Hans-Tobias Macholdt, Clariant Produkte GmbH (Deutschland) 208 16:15

TRACK II Intelligence & Science

IMAGE CAPTURE & CAMERA SYSTEM

Wednesday June 25, 13:35-14:45, Room: Hodaka

Session Chairs: Hideaki Haneishi, Chiba University and Hideaki YOSHIDA, Olympus Corporation

- Tr.2-101(V) The development of a High-Dynamic-Range Video Chipset (Invited),** Ricardo J. Motta, PIXIM Inc, (USA) 212 13:35

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|-----------------|---|-----|-------|
| Tr.2-102 | Single-shot two-step phase-shifting digital holography capable of instantaneous three- dimensional image measurement , Tatsuki TAHARA, Atsushi KANEKO, Takamasa KOYAMA, Kyoto Institute of Technology, Yasuhiro AWATSUJI, PRESTO, Japan Science and Technology Agency, Kenzo NISHIO, Shogo URA, Kyoto Institute of Technology, Toshihiro KUBOTA, Kubota Holography Lab. Co., Osamu MATOBA, Kobe University (Japan) | 214 | 14:05 |
| Tr.2-103 | A study on matching between the taking lens and the image sensor of a digital camera , Hideaki Yoshida, Olympus Imaging corp. (Japan) | 218 | 14:25 |

COLOR SCIENCE

Wednesday June 25, 15:05-16:15, Room: Hodaka

Session Chairs: Po-Chieh Hung, Konica-Minolta Business Technology Center, Inc., and Naoya Katoh, Sony Corporation

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| Tr.2-104(V) | Color Reproduction Using Multi-primaries /colorants (Invited) , Yeong-Ho Ha, Chang-Hwan Son, In-Su Jang, Kyungpook National University (S.Korea) | 222 | 15:05 |
| Tr.2-105 | Equivalence evaluation of pseudo ultra wide gamut display , Toru KITANO, Shinshu University, Masashi KANAI, Hideaki KASAHARA, Kenji FUKASAWA, SEIKO EPSON Corp., Takao ABE, Shinshu University (Japan) | 226 | 15:35 |
| Tr.2-106 | Image Color Mapping in Orthonormal Luminance/Chrominance Fundamental Color Space , Hiroaki Kotera, Kotera Imaging Laboratory (Japan) | 230 | 15:55 |

APPLICATION OF IMAGING

Thursday, June 26, 13:00-14:10, Room: Hodaka

Session Chairs: Masao MATSUMOTO, Osaka University and Masahiko OGINO, Mizukami Insatsu Co., Ltd.

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|--------------------|--|-----|-------|
| Tr.2-201(V) | Development of Laparoscopic Surgery Training and Support Systems Using VR Technology (Invited) , Yoichi MIYAKE, Chiba University (Japan) | 234 | 13:00 |
| Tr.2-202 | Stroke Tissue Outcome Prediction Using A Spatially-Correlated Model , Viet Ha Nguyen, A.N.Lab Corporation (Japan), Homer H. Pien, Nina Menenzes, Chloe J. Lopez, Christopher Melinosky, Ona Wu, A. Gregory Sorensen, Massachusetts General Hospital, Gene Cooperman, Northeastern University, Hakan Ay, Walter J. Koroshetz, Massachusetts General Hospital (USA), Yawu Liu, Juho Nuutinen, Hannu J. Aronen, Jari Karonen, Helsinki University Central Hospital (Finland) | 238 | 13:30 |
| Tr.2-203 | Observation of latent image specks in silver salt photography created by high energetic heavy ions for the purpose of precise estimation of local deposit energy , Hirotaka Kubota, Kimio Niwa, Nagoya University, Toshiyuki Toshito, High Energy Accelerator Research Organization (KEK), Ken'ichi Kuge, Chiba University, Nakahiro Yasuda, National Institute of Radiological Sciences (NIRS), Mitsunori Natsume, Noriyuki Saito, Nagoya University (Japan) | 242 | 13:50 |

IMAGE PROCESSING, IMAGE RECOGNITION and IMAGE EVALUATION (1)

Thursday, June 26, 14:25-15:05, Room: Hodaka

Session Chair: Kenji TOYODA, Eastman Kodak Company

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|-----------------|---|-----|-------|
| Tr.2-204 | A Histogram-Based Method for Identifying Uniformly Colored Regions in a Document Image , A. Mufit Ferman, Sharp Laboratories of America, Inc. (USA) | 246 | 14:25 |
| Tr.2-205 | Combined approach for Pictorial Detection in Document Images , Toyohisa Matsuda, SHARP CORPORATION, Richard J. Campbell, Lawrence S. Chen, Sharp Laboratories of America, Inc. (USA) | 250 | 14:45 |

Track II INTERACTIVE SHORT PRESENTATIONS

Thursday, June 26, 15:05-15:30, Room: Hodaka

Session Chair: Kenji TOYODA, Eastman Kodak Company

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|--------------------|---|-----|--------|
| Tr.2-206(P) | Improved Measurement of LCD Grayscale Linearity by Controlling Luminance (Interactive) , Kwang Yeol Park, Hyung Ju Park, Dong Hwan Har, Chung-Ang University (S.Korea) | 254 | 15:05* |
| Tr.2-207(P) | Measurements and Simplification of Gonio- spectrum reflectance in various paint samples (Interactive) , Jun w, Megumi Ito, CANON INC. (Japan) | 258 | 15:10* |
| Tr.2-208(P) | Overview on rehousing Daguerreotype (Interactive) , Yoko Shiraiwa (Japan) | 262 | 15:15* |
| Tr.2-209(P) | JEITA standard CP-3901 "Digital Color Photo Print Stability Evaluation" (Interactive) , Shinichi Kato, Hiroko Hayashi, Yoshiro Udagawa, Kaoru Takada, JEITA / Seiko Epson Corporation/Canon Inc. (Japan) | 266 | 15:20* |
| Tr.2-210(P) | Color correction of pathological images by adaptive Wiener estimation (Interactive) , Tokiya Abe, Hideaki Haneishi, Chiba University, Pinky A. Bautista, Yuri Murakami, Masahiro Yamaguchi, Nagaaki Ohyama, Tokyo Institute of Technology (Japan), Yukako Yagi, Harvard Medical School | 270 | 15:25* |

IMAGE PROCESSING, IMAGE RECOGNITION and IMAGE EVALUATION (2)

Friday, June 27, 10:20-11:50, Room: Hodaka

Session Chairs: Hiroshi YAMAGUCHI, FUJIFILM Corporation and Hiroyuki KOBAYASHI, Chiba University

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|--------------------|--|-----|-------|
| Tr.2-301(V) | Face Detection And Its Applications To Digital Photographic Systems (Invited) , Tao Chen, FUJIFILM Corporation (Japan) | 274 | 10:20 |
| Tr.2-302 | Generating Perceived Color Image with Wavelet Transform , Yoshiki NAKAMURA, Tokyo Insitute of Technology (Japan) | 278 | 10:50 |
| Tr.2-303 | Optical dot gain simulation of inkjet image using MTF of paper , Masayuki Ukishima, Hitomi Kaneko, Toshiya Nakaguchi, Norimichi Tsumura, Chiba University (Japan), Markku Hauta-Kasari, Jussi Parkkinen, University of Joensuu (Finland), Yoichi Miyake, Chiba University (Japan) | 282 | 11:10 |

- Tr.2-304** **The Research into the Morie Strip in AM Screening**, Chen Guangxue, 286 11:30
South China University of Technology, Zhang De, Xi'an Research Institute of
Surveying and Mapping(China)

IMAGE PROCESSING, IMAGE RECOGNITION and IMAGE EVALUATION (3)

Friday, June 27, 13:00-13:55, Room: Hodaka

Session Chairs: Hiroshi YAMAGUCHI, Fuji Film Corporation and Hioroyuki
KOBAYASHI, Chiba University

- Tr.2-305(P)** **An Image Fusion Technique for High Dynamic Range Image
Acquisition (Interactive)**, Takanori Jinno, Masahiro Okuda, The University of
Kitakyushu (Japan) 290 13:00*
- Tr.2-306(P)** **Perception of contour between different halftone algorithms
(Interactive)**, Phichit Kajondecha, Hongmei Cheng, Yashushi Hoshino, Nippon
Institute of Technology (Japan) 294 13:05*
- Tr.2-307(P)** **Dependence analysis of the paper MTF on the geometric condition
(Interactive)**, Masayuki Ukishima, Toshiya Nakaguchi, Norimichi Tsumura,
Chiba University (Japan), Markku Hauta-Kasari, Jussi Parkkinen, University of
Joensuu, (Finland), Yoichi Miyake, Chiba University, (Japan) 298 13:10*
- Tr.2-308(P)** **Spot Color Recognition and Extraction of Color Map Image
(Interactive)**, Chen Guangxue, South China University of Technology,, Zhang
De, Surveying and Mapping Institute, Xi'an Research Institute of Surveying and
Mapping(China) 302 13:15*
- Tr.2-309(P)** **"Memory Texture" and Its Relationship with Object's Texture
(Interactive)**, Naoya Takesue, Naokazu Aoki, Hiroyuki Kobayashi, Chiba
University (Japan) 306 13:20*
- Tr.2-310(P)** **Plane Detection in Piecewise Image Pair through a Coarse-to-Fine
Strategy integrating Texture Information (Interactive)**, Qiang He,
Mississippi Valley State University, Chee-Hung Henry Chu, University of
Louisiana (USA) 310 13:25*
- Tr.2-311(P)** **Dependence of optimization condition of edge enhancement on
observation distances (Interactive)**, CHENG HongMei, Phichit kajondecha,
HOSHINO Yasushi, Nippon Institute of Technology (Japan) 314 13:30*
- Tr.2-312(P)** **How photographic image quality affects the impression created by
facial photographs (Interactive)**, Shigeru Sato, Kyushu Sangyo University,
Hiroshi Komori, Chiba University, Hiroyuki Kobayashi, Graduate School of
Advanced Integration Science (Japan) 318 13:35*
- Tr.2-313(P)** **The Traffic Signal Light Detection Using Image Processing
(Interactive)**, Pranchalee Rattanasakornchai, Panuschai Sribumrung, King
Mongkut's University of Tecnology (Thailand), Yasushi Hoshino, Nippon
Institute of Technology (Japan) 322 13:40*
- Tr.2-314(P)** **The Effect of 1D Noise on Sharpness Perception of Grating Pattern
(Interactive)**, Takehito Kurihara, Tomoaki Tanaka, Naokazu Aoki, Hiroyuki
Kobayashi, Chiba University (Japan) 326 13:45*

- Tr.2-315(P) Image Quality Improvement of a Moving Picture Sequence by Motion JPEG (Interactive)**, Tsutomu Shohdohji, Nippon Institute of Technology, Masao Shinohara, Metro Co., Ltd., Fumihiko Yano, J. F. Oberlin University, Yoshiaki Toyoda, Aoyama Gakuin University (Japan) 330 13:50*

15:35-16:45

IMAGE ARCHIVES

Session Chairs: Norihide TAKAHASHI, Nihon University and Junichi KOHNO, Konica-Minolta Technology Center, Inc.

- Tr.2-316(V) Image Permanence Test Methods for Digital Photo Printing Materials and the Latest Trends Toward Standardization (Invited)**, Yukihiro Kanazawa, FUJIFILM Corporation (Japan) 334 15:35
- Tr.2-317 The Influence of Relative Humidity and Test Sample Temperature in the Accelerated Light Fading of Inkjet Prints**, Henry Wilhelm, Kabenla Armah, Dmitriy Shklyarov, Barbara Stahl, Wilhelm Imaging Research, Inc. (USA) 338 *Withdrawn*
- Tr.2-318 ISO standardization activities regarding test methods for image permanence of photographic prints**, Yoshihiko Shibahara, Nobuhiko Uchino, Fujifilm Co. (Japan) 340 16:05

TRACK III Innovation for Society**ORGANIC & PHOTOCONDUCTIVE MATERIALS****Wednesday, June 25, 13:35-16:15, Room: Daisetsu**

Session Chairs: Hiroyoshi NAITO, Osaka Prefecture University and Norio NAGAYAMA, Osaka University

- Tr.3-101(V) Ultraviolet Light Photofatigue of Organic Photoreceptors (Invited)**, David S. Weiss, Eastman Kodak Company (USA) 346 13:35
- Tr.3-102 Multicolor Organic EL Device Using a Polypeptide As a Hole-Transport Material**, HIEJIMA Toshihiro, UEDA Kenji, UCHIDA Takayuki, Tokyo Polytechnic University (Japan) 350 14:05
- Tr.3-103 Doping Effect on the Energy Distribution of Localized States and Carrier Transport in Order Controlled Material Using Liquid Crystalline Phase**, Akira Ohno, Tsukasa Nakamura, Jun-ichi Hanna, Tokyo Institute of Technology and JST-CREST (Japan) 354 14:25
- Tr.3-104 TOF and TFT mobilities in polycrystalline thin films of liquid crystalline materials**, Hiroaki Iino, Jun-ichi Hanna, Tokyo Institute of Technology and JST-CREST (Japan) 358 15:05
- Tr.3-105 Electronic Structure of Interface between Liquid-Crystalline Organic Semiconductors and Electrodes Based on I-V Characteristics and Photoelectron Spectroscopy**, Tadaaki Tani, Tokyo Institute of Technology, Tohru Toda, Jun-ichi Hanna, Imaging Sci. Eng. Lab, Tokyo Institute of Technology (Japan) 362 15:25
- Tr.3-106 Polymorph and electronic structure of methyl orange**, Kazuyuki Sato, Hiroki Shibata, Jin Mizuguchi, Yokohama National University (Japan) 364 15:45

- Tr.3-107(P)** **Crystal and electronic structure of methyl orange (Interactive)**, Hiroki Shibata, Kazuyuki Sato, Jin Mizuguchi, Yokohama National University (Japan) 368 16:05*
- Tr.3-108(P)** **Device characteristics in polymer field-effect transistors with poly (methyl silsesquioxane) gate insulators (Interactive)**, Kenji Tomatsu¹, Takashi Hamada^{1,2}, Saori Yamazaki^{1,2,3}, Takashi Nagase^{1,2}, Takashi Kobayashi^{1,2}, Shuichi Murakami^{2,4}, Kimihiro Matsukawa^{2,5}, Hiroyoshi Naito^{1,2}, ¹Osaka Prefecture University, ²Japan Science and Technology Agency, ³Citizen Technology Center, ⁴Technology Research Institute of Osaka Prefecture, ⁵Osaka Municipal Technical Research Institute (Japan) 372 16:10*

REWITABLE & ECOLOGY

Thursday, June 26, 13:00-14:05, Room: Daisetsu

Session Chairs: Yoshihiko HOTTA, Ricoh Company Ltd. and Shuichi MAEDA, Oji Paper Co., Ltd.

- Tr.3-201(V)** **"Rewritable Hybrid Media" The technology & application of thermal rewritable display media with RFID (Invited)**, Hiroshi Uenishi, RICOH COMPANY, Ltd. (Japan) 376 13:00
- Tr.3-202** **Fixation of powdered TiO₂ onto metal substrates by electrophoretic deposition and its use for complete decomposition of volatile organic compounds**, Jin Mizuguchi, Toru Ebara, Shigeru Suzuki, Yokohama National University (Japan) 380 13:30
- Tr.3-203(P)** **Fixation of powdered TiO₂ onto Ni-Cr heat elements by electrophoretic deposition and its use for complete decomposition of volatile organic compounds (Interactive)**, Atsushi Maki, Ryo Iwamoto, Toru Ebara, Jin Mizuguchi, Yokohama National University (Japan) 384 13:50*
- Tr.3-204(P)** **Dye sensitized photocapacitor : Improvement of photorechargeable properties by using RuO₂/activecarbon composite as the storage material (Interactive)**, Kenjiro Teshima, Peccell Technologies, Inc., Jun Suzuki, Naoki Kawakami, Toin university of Yokohama, Tsutomu Miyasaka, Toin university of Yokohama and Peccell Technologies, Inc. (Japan) 388 13:55*
- Tr.3-205(P)** **Laser Recording on Thermal Rewritable Media (2) Analysis of Thermal Distribution Calculated by Simulation in Various Intensity Distribution of Laser Beam (Interactive)**, Tomomi Ishimi, Shinya Kawahara, Toshiaki Asai, Yoshihiko Hotta, RICOH COMPANY LTD. (Japan) 390 14:00*

3D & SECURITY IMAGING

Thursday, June 26, 14:20-15:30, Room: Daisetsu

Session Chairs: Kazutoshi YANAKA, Kanagawa Institute of Technology and Yasushi HOSHINO, Nippon Institute of Technology

- Tr.3-206(V)** **Novel Lippmann Holograms and Computer Generated Holograms for Security Application (Invited)**, Kenji Ueda, Masachika Watanabe, Dai Nippon Printing Co., Ltd. (Japan) 394 14:20
- Tr.3-207** **Reversible thermoresponsive on-off recording of fluorescence and long lived room temperature phosphorescence in organic materials/ Next-generation advanced materials for security technology**, Shuzo Hirata, Toshiyuki Watanabe, Tokyo University of Agriculture and Technology (Japan) 398 14:50

- Tr.3-208(P) Invisible inks using a fluorescent pigment for ink jet application (Interactive)**, Juntira Komastitaya, King Mongkut's University of Technology (Thailand) 402 15:10*
- Tr.3-209(P) Research and Application of 3D Map Symbol (Interactive)**, Chen Guangxue, South China University of Technology, Wei Yongjun, Xi'an Research Institute of Surveying and Mapping., Hou Suyuan, Ji Guojie, Xi'an Research Institute of Surveying and Mapping. (China) 406 15:15*
- Tr.3-210(P) Creation of 3D moire using full color printer and fly's eye lens (Interactive)**, Kazuhisa Yanaka, Kanagawa Institute of Technology (Japan) 410 15:20*
- Tr.3-211(P) Experimental Study of Exoskeleton type Haptic Display (Interactive)**, J. Sone, R. Inoue, S. Tsuyuki, K. Ishikawa, K. Yamada, I. Kaneko, Tokyo Polytechnic University, K. Fujita, Tokyo University of Agriculture and Technology, M. Sato, Tokyo Institute of Technology (Japan) 414 15:25*

ELECTRONIC PAPER & FLEXIBLE DISPLAY (1)

Friday, June 27, 10:20-11:50, Room: Daisetsu

Session Chairs: Tatsumi TAKAHASHI, Dai Nippon Printing Co., Ltd. and Hiroshi ARISAWA, Fuji XEROX Co., Ltd.

- Tr.3-301(V) Electronics Paper Display -Current Technology & Market Development Status and its Future direction (Invited)**, Ryosuke Kuwada, E Ink Corporation (USA) 416 10:20
- Tr.3-302(V) Quick-Response Liquid-Powder Display (Invited)**, Yoshitomo Masuda, Ryo Sakurai, Norio Nihei, Itsuo Tanuma, Bridgestone Corporation, Reiji Hattori, Kyushu University (Japan) 418 10:50
- Tr.3-303(P) Spectro electrochemical properties of phthalate derivative-based Electrochromic cell (Interactive)**, Yuichi Watanabe, Takeshi Nagashima, Norihisa Kobayashi, Chiba University (Japan) 422 11:20*
- Tr.3-304(P) Improvement of electrochromic properties of bismuth based cell with mediator (Interactive)**, Toshiki KON, Mitsuharu KIMURA, Norihisa KOBAYASHI, Chiba University (Japan) 424 11:25*
- Tr.3-305(P) An Application of Tungsten Oxide Nano-particles to Preparation of Electrochromic Films (Interactive)**, Fumiyuki SHIBA, Natsuki MORISHITA, Masakazu YOKOYAMA, Yusuke OKAWA, Chiba University (Japan) 426 11:30*
- Tr.3-306(P) Electrochromic Properties of Dibenzylviologen in the Presence of Various Mediators (Interactive)**, Taiki Takei, Yuya Yamada, Katsuyoshi Hoshino, Chiba University (Japan) 430 11:35*
- Tr.3-307(P) Effects of shape and size of ChLC droplets on reflection properties of close-packed monolayer PDLc device (Interactive)**, Taijyu Gan, Haruo Harada, Makoto Gomyo, Yasunori Okano, Chisato Urano, Hiroshi Arisawa, Fuji Xerox Co., Ltd., (Japan) 432 11:40*
- Tr.3-308(P) Color Conversion Panels Based on Organic Dye-Dispersed Inorganic Electroluminescent Devices (Interactive)**, Takayuki UCHIDA, Satoshi Kawamura, Makoto Kobayashi, Toshifumi Satoh, Tokyo Polytechnic University (Japan) 436 11:45*

ELECTRONIC PAPER & FLEXIBLE DISPLAY (2)

Friday, June 27, 13:00-13:55, Room: Daisetsu

Session Chairs: Kaoru SUZUKI, Hitachi, Ltd. and Takayuki SANŌ,
TOMOEGAWA Co., Ltd.

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| Tr.3-309 | Novel Color Electrophoresis Particles Based on Movement of Particles Using Two Driving Electrodes , Masahiro Masuzawa, Masahiro Yanagisawa, Yoshihisa Najoh, Ricoh Co,LTD., Takashi Kitamura, Chiba University (Japan) | 440 | 13:00 |
| Tr.3-310(P) | Display Characteristic of Color Electrophoretic Image Display Based on Movement of Particles Using Two Driving Electrodes (Interactive) , Hiroshi Endo, Chiba University, Masahiro Masuzawa, Ricoh Company, Ltd, Sakiko Nakamura, Nobukazu Miyagawa, Takashi Kitamura, Chiba University (Japan) | 444 | 13:20* |
| Tr.3-311(P) | Continuous Tone Image in Electrophoretic Display (Interactive) , Yoshitaku Yoshimatsu, Sakiko Nakamura, Nobukazu Miyagawa, Takashi Kitamura, Chiba University (Japan) | 448 | 13:25* |
| Tr.3-312(P) | Study on Charging Mechanism of Polymer Coated Electrophoretic Particles--- Part I --- For monochromic EPID system (Interactive) , Ming Wang, Sakiko Nakamura, Nobukazu Miyagawa, Takashi Kitamura, Chiba University (Japan) | 452 | 13:30* |
| Tr.3-313(P) | Low driving voltage to move the toner particle in Toner Display (Interactive) , Ryohei Namikawa, Sakiko Nakamura, Nobukazu Miyagawa, Takashi Kitamura, Chiba University (Japan) | 456 | 13:35* |
| Tr.3-314(P) | Triboelectrical charging mechanism of toner in toner display (Interactive) , Satoshi Suzumi, Sakiko Nakamura, Nobukazu Miyagawa, Takashi Kitamura, Chiba University (Japan) | 460 | 13:40* |
| Tr.3-315(P) | Control of Toner Movement in Color Toner Display using Three Kinds of Particles (Interactive) , Masato Ohshima, Sakiko Nakamura, Nobukazu Miyagawa, Takashi Kitamura, Chiba University (Japan) | 464 | 13:45* |
| Tr.3-316(P) | A document reading system with electronic paper display (Interactive) , Norihisa Fujii, Hiroaki Suzuki, BROTHER INDUSTRIES LTD., Makoto Omodani, Tokay University (Japan) | 468 | 13:50* |

ELECTRONIC PAPER & FLEXIBLE DISPLAY (3)

Friday, June 27, 15:35-16:35, Room: Daisetsu

Session Chairs: Norihisa KOBAYASHI, Chiba University and Akira SUZUKI,
Ricoh Company, Ltd.

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| Tr.3-317 | Comparison of Performances between LC Display / Electronic Paper / Paper at Proofreading Task on Multi-page Documents , Junko Imai, Makoto Omodani, Tokai University (Japan) | 470 | 15:35 |
| Tr.3-318 | Gelatin-based microcapsules with compact wall prepared by complex coacervation , Weigang Li, Gang Wu, Mang Wang, Hongzheng Chen, Department of Polymer Science & Engineering, Zhejiang University (China) | 474 | 15:55 |
| Tr.3-319 | Measurement of Electrostatic Property and Material Design of Electronic Liquid Powder® Used in Novel Type Bistable Reflective Display (QR-LPD®) , Norihiko Kaga, Hiroyuki Anzai, Koji Takagi, Bridgestone corporation (Japan) | 478 | 16:15 |

DIGITAL FABRICATION

Friday, June 27, 13:00-14:30, Room: Fuji-W

Session Chairs: Shinri SAKAI, Seiko EPSON Corporation and Shin-ichi NISHII,
Konica Minolta IJ Technologies, Inc.

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| Tr.3-320(V) | Ink-Jet Technology for Manufacturing and Instrument Application (Invited) , David Wallace, Patrick Cooley, Bogdan Antohe, Don Hayes, Ting Chen, MicroFab Technologies, Inc. (USA) | 482 | 13:00 |
| Tr.3-321(V) | Skin-like large-area electronics using digital fabrication technology (Invited) , Takao Someya, The University of Tokyo (Japan) | 486 | 13:30 |
| Tr.3-322(V) | Inkjet 3D biofabrication for 3D tissue engineering (Invited) , Makoto Nakamura ^{1,2} , Yuichi Nishiyama ¹ , Chizuka Henmi ¹ , Shintaroh Iwanaga ¹ , Kumiko Yamaguchi ² , Keiichi Akita ² , Koki Takiura ³ , ¹ Kanagawa Academy of Science and Technology, ² Tokyo Medical and Dental University, ³ Yamagata University (Japan) | 488 | 14:00 |