iMiD 2021
The 21st International Meeting on Information Display
August 25-27, 2021 / COEX, Seoul, Korea

Session Title:	[SS1] Special Session I: 20th Anniversary Special Session
Session Room:	On-line Only (On-demand)

[SS1-1] [Invited] On-line (Pre-recorded) / On-demand

Seamless Collaboration for Advancing Digital Living

Woo Kyu Kim (Merck Korea, Korea)

[SS1-2] [Invited] On-line (Pre-recorded) / On-demand

Fluorinated Elevated-Metal Metal-Oxide Thin-Film Transistors for Flexible Electronics

Man Wong and Runxiao Shi (The Hong Kong Univ. of Science and Tech., Hong Kong)

[SS1-3] [Invited] On-line (Pre-recorded) / On-demand

High Resolution OLED Display and AR/VR Application

Chiwoo Kim, Jae Hoon Jung, and Kiro Jung (APS Research Corp., Korea)

[SS1-4] [Invited] On-line (Pre-recorded) / On-demand

Two Decade of Revolutions in Korea Display Industry

Jun Souk (Bandi Consortia, Korea)

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Session Title:	[WA1] Oral 01. Materials and Devices Design with AI/Simulation
Session Date:	August 25 (Wednesday), 2021
Session Time:	13:00-14:30
Session Room:	Room A (101+102)
Session Chair(s):	Seungwu Han (Seoul Nat'l Univ., Korea) Youngmi Cho (Samsung Display Co., Ltd., Korea)

[WA1-1] [Featured Invited] On-line (Live Streaming) / 13:00-13:30

TBA

Alán Aspuru-Guzik (Univ. of Toronto, USA)

[WA1-2] [Featured Invited] On-line (Live Streaming) / 13:30-14:00

Purely Organic Emitters for OLEDs: a Radical Proposition

Jean-Luc Bredas (Univ. of Arizona, USA)

[WA1-3] Off-line / 14:00-14:15

Multiscale Calculation of Carrier Mobility in Organic Solids through the Fine-Tuned Kinetic Monte Carlo Method

Gyubong Kim, Kyungchan Chae, Sunwoo Kang, Youngmi Cho, and Hoilim Kim (Samsung Display Co., Ltd., Korea)

[WA1-4] Off-line / 14:15-14:30

Autonomous Materials Design for More Efficient OLED Devices Using Machine Learning

Sohae Kim, Dongsun Yoo, Jihye Kim, Gyeongheon Kim, Jiyoo Park, Seran Kim, Dahye Cho, Hoilim Kim, Young Mi Cho, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[WA1-5] [Invited] On-line (Pre-recorded) / On-demand

Design Automation of Efficient Deep Neural Networks in Display Devices

Jae Hun Shim and Suk-Ju Kang (Sogang Univ., Korea)

[WA1-6] [Invited] On-line (Pre-recorded) / On-demand

Kinetic Monte Carlo Modeling of Organic Light-Emitting Diodes Containing Molecules with Large Electric Dipole Moments

R. Coehoorn (Eindhoven Univ. of Tech., The Netherlands), X. Lin (South China Normal Univ., China), C.H.L. Weijtens (Eindhoven Univ. of Tech., The Netherlands), S. Gottardi, and H. van Eersel (Simbeyond B.V., The Netherlands)

[WA1-7] [Invited] On-line (Pre-recorded) / On-demand

Refined Models and Machine Learning for OLED Display Simulation

E. Knapp, M. Battaglia (Zurich Univ. of Applied Sciences, Switzerland), S. Zeder, U. Aeberhard (Fluxim AG, Switzerland), E. Comi, C. Kirsch (Zurich Univ. of Applied Sciences, Switzerland), S. Jenatsch, B. Blülle, and B. Ruhstaller (Fluxim AG, Switzerland)

[WA1-8] [Invited] On-line (Pre-recorded) / On-demand

First-Principles Modeling of Efficiency of Halide Perovskites

Chris G. Van de Walle (Univ. of California Santa Barbara, USA)

[WA1-9] [Invited] On-line (Pre-recorded) / On-demand

Quantum Computing Methods for OLED Materials Design

Scott N. Genin, Ilya G. Ryabinkin, and Michael G. Helander (OTI Lumionics Inc., Canada)

[WA1-10] [Invited] On-line (Pre-recorded) / On-demand

Digital Twins in OLED Development: A Review on Virtual Characterization and Improvement of OLED Materials and Devices

Tobias Neumann, Franz Symalla, Daniel Wehl, Timo Strunk (Nanomatch GmbH, Germany), Simon Kaiser, and Wolfgang Wenzel (Karlsruhe Inst. of Tech., Germany)

[WA1-11] [Invited] On-line (Pre-recorded) / On-demand

An Innovation Platform for Optoelectronics: Synergistic Acceleration of de Novo Design Powered by Multiscale Simulations and Machine Learning

Mathew D. Halls, Yuling An, H. Shaun Kwak, Hadi Abroshan, Paul Winget, David J. Giesen, Anand Chandrasekaran, Mohammad Atif Faiz Afzal, and Christopher T. Brown (Schrödinger Inc., USA)

[WA1-12] On-line (Pre-recorded) / On-demand

Active Learning for the Accelerated Design and Optimization of Novel OLED Materials

Hadi Abroshan, Anand Chandrasekaran, Paul Winget, Yuling An, Shaun Kwak, Christopher Brown, and Mathew D. Halls (Schrödinger, Inc., USA)

[WA1-13] On-line (Pre-recorded) / On-demand

How to Make Fragile Bonds Less Fragile for Robust OLED Materials

Rui Wang, Qing-Yu Meng, and Juan Qiao (Tsinghua Univ., China)

[WA1-14] On-line (Pre-recorded) / On-demand

Development of a New Blue Emitter Using Deep Learning Optical Spectroscopy

Joonyoung Francis Joung, Minhi Han, Minseok Jeong, and Sungnam Park (Korea Univ., Korea)

[WA1-15] On-line (Pre-recorded) / On-demand

Retrosynthesis Planning for Thermally Activated Delayed Fluorescence Molecules

Dongsun Yoo, Seran Kim, Sohae Kim, Jihye Kim, Saerom Park, Hoi-Lim Kim, Youngmi Cho, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

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Session Title:	[WB1] Oral 02. Free-Form Display I
Session Date:	August 25 (Wednesday), 2021
Session Time:	13:00-14:25
Session Room:	Room B (103)
Session Chair(s):	Su Seok Choi (POSTECH, Korea) Seung Hyup Yoo (KAIST, Korea)

[WB1-1] [Invited] Off-line / 13:00-13:25

TBA

Mun Pyo Hong (Korea Univ., Korea)

[WB1-2] Off-line / 13:25-13:40

Highly Stretchable and Recoverable Rollable AMOLED Display

Taewoong Kim, Jinhwan Choi, Dongwon Choi, Sangjun Lee, Jonghwa Lee, Jaeho Ahn, Jiyeon Kim, Beomjin Kim, Taeho Kim, Sanghwan Cho, Sungchan Jo, Changhee Lee, and Jinoh Kwag (Samsung Display Co., Ltd., Korea)

[WB1-3] Off-line / 13:40-13:55

Highly Efficient, Heat Dissipating and Geometrically Stretchable Organic Light-Emitting Diodes based on Thin Elastomer with Silicon Dioxide Nanoparticles

Dong Hyun Choi, Jun Su Yang, Dong Hyun Kim, Chang Min Lee, Hyung Ju Chae, Geon Woo Jeong, Tae Wook Kim, Subrata Sarker, and Seung Yoon Ryu (Korea Univ., Korea)

[WB1-4] Off-line / 13:55-14:10

Highly Transparent OLED for Textile Displays Utilizing Dielectric/Metal/Dielectric Electrode

Junwoo Lee, Seungyeop Choi, Tae-Woo Lee, and Kyung Cheol Choi (KAIST, Korea)

[WB1-5] Off-line / 14:10-14:25

Water-Resistant Stretchable Organic Light-Emitting Diode via a Laser-Cutting Process

Jaehyeock Chang, Minwoo Nam, and Kyung Cheol Choi (KAIST, Korea)

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Session Title:	[WC1] Oral 03. Applied Vision and Human Factors
Session Date:	August 25 (Wednesday), 2021
Session Time:	13:00-14:20
Session Room:	Room C (104+105)
Session Chair(s):	Youngshin Kwak (UNIST, Korea) Gunshik Kim (Samsung Display Co., Ltd., Korea)

[WC1-1] [Featured Invited] On-line (Live Streaming) / 13:00-13:30

Ghosts and Other Motion Artifacts that Haunt Displays

Dale Stolitzka (Samsung Display Co., Ltd., Korea)

[WC1-2] [Invited] Off-line / 13:30-13:55

Deep Learning Based Image Quality Restoration for Display Defects Detection Using X-Ray Inspection

Byungseok Min (XAVIS Co., Ltd., Korea)

[WC1-3] [Invited] Off-line / 13:55-14:20

Simulation of Image Quality Using Optical Properties of Light-Emitting Device and Panel Structure

Gunshik Kim and Jongbeom Hong (Samsung Display Co., Ltd., Korea)

[WC1-4] [Invited] On-line (Pre-recorded) / On-demand

Visualization of Color Gamut Intersection Using Gamut Rings

Kenichiro Masaoka (NHK STRL, Japan)

[WC1-5] [Invited] On-line (Pre-recorded) / On-demand

Tone Reproduction of Transparent Display under Various Background-Surround Conditions

Pei-Li Sun, Yu-Ting Cheng (Nat'l Taiwan Univ. of Science and Tech., Taiwan), and Hung-Chung Li (Chang Gung Univ. of Science and Tech., Taiwan)

[WC1-6] [Invited] On-line (Pre-recorded) / On-demand

Subjective Quality Assessment of VESA Display Stream Compression Codecs

Robert S. Allison and Laurie M. Wilcox (York Univ., Canada)

[WC1-7] [Invited] On-line (Pre-recorded) / On-demand

Appearance Transforms in Video/HD/UHD/HDR Consumer Display

Charles Poynton (Independent Researcher, Canada)

[WC1-8] [Invited] On-line (Pre-recorded) / On-demand

Evaluating Display Ambient Contrast with Self Reflection

John Penczek (NIST, USA)

[WC1-9] On-line (Pre-recorded) / On-demand

Sensitivity of VESA Display Stream Compression Codecs to Chromatic Aberration

Domenic Au, Sanjida Sharmin Mohona, Yuqian Hou, Onoise Gerald Kio (York Univ., Canada), James Goel (Qualcomm Canada Inc., Canada), Natan Jacobson (Qualcomm Inc., USA), Robert Allison (York Univ., Canada), and Laurie Wilcox (York Univ., Canada)

[WC1-11] On-line (Pre-recorded) / On-demand

Luminance and Color Measurements at Subpixel Level Using Microscopic and Macroscopic Lenses with Imaging Luminance Measurement Devices

Ingo Rotscholl (TechnoTeam, Germany), Shin Myung Choi (IS-Soft Co., Ltd., Korea), Tobias Porsch, and Udo Krüger (TechnoTeam, Germany)

[WC1-12] On-line (Pre-recorded) / On-demand

Novel Image Quality Characteristics of MicroLED TV

Daeun Park, YoonJung Kim, and YungKyung Park (Ewha Womans Univ., Korea)

[WC1-13] On-line (Pre-recorded) / On-demand

A Study of Directivity Characteristics for TV Audio Systems

Jang-Un Kwon, Jeong Man Lee, Jang Jin Yoo (LG Display Co., Ltd., Korea)

[WC1-14] On-line (Pre-recorded) / On-demand

Measurement Methods for the Seam of Tiled Display

JaeHong Kim, HeeEun Lee, and Junwoo Jang (LG Display Co., Ltd., Korea)

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Session Title:	[WA2] Oral 04. Optics and Circuits Design with AI/Simulation
Session Date:	August 25 (Wednesday), 2021
Session Time:	15:00-16:35
Session Room:	Room A (101+102)
Session Chair(s):	Hwi Kim (Korea Univ., Korea)

[WA2-1] [Invited] On-line (Pre-recorded) / On-demand

Optical Model of Organic Light-Emitting Diodes based on the Generalized Poynting Vector Method

Jungho Kim (Kyung Hee Univ., Korea)

[WA2-2] [Invited] Off-line / 15:00-15:25

Bidirectional-Scattering-Matrix-Method Based Adjoint Inverse Design Algorithm for Diffractive Display Optic Devices

Hwi Kim (Korea Univ., Korea)

[WA2-3] [Invited] Off-line / 15:25-15:50

Anchor-Free Fingerprint Core Detection based on a Truncated GoogleNet Model

Shallon Stubbs, Soongyu Lee, Youngwook Yoo, and Pilho Kim (Samsung Display Co., Ltd., Korea)

[WA2-4] Off-line / 15:50-16:05

Optimization of Pixel Layout Generator for AMOLED Displays

Jungsuk Bang, Myunghun Lim, Min Kang, Yongwoo Lee, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[WA2-5] Off-line / 16:05-16:20

Artificial Neural Network Transistor Modelling and Display Compensation Method

Sang-ik Lee, Joonchul Goh, Minseok Bae, Junwoo Son, and Wonjun Choe (Samsung Display Co., Ltd., Korea)

[WA2-6] Off-line / 16:20-16:35

Inverse Design of Organic Light-Emitting Diode Structure based on Deep Neural Network

Sanmun Kim, Jeong Min Shin (KAIST, Korea), Jaeho Lee (LG Display Co., Ltd., Korea), Chan Hyung Park (KAIST, Korea), Dongjin Seo (KC Machine Learning Lab., Korea), Sehong Park (LG Display Co., Ltd., Korea), and Min Seok Jang (KAIST, Korea)

[WA2-7] On-line (Pre-recorded) / On-demand

Enhancing OLED Outcoupling Efficiency via Atomistic-Scale Simulations

Paul Winget, H. Shaun Kwak, Hadi Abroshan, Christopher Brown, and Mathew D. Halls (Schrödinger, Inc., USA)

[WA2-8] On-line (Pre-recorded) / On-demand

Development of Computational Optical Detection for Initial Uniformity Compensation and Defect Defection on AMOLED Displays

Shuenn-Jiun Tang, Tristan Le, Tong Liu, Tristan Doodnauth, and Junhu He (Ignis Innovation Inc., Canada)

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Session Title:	[WB2] Oral 05. Free-Form Display II
Session Date:	August 25 (Wednesday), 2021
Session Time:	15:00-16:00
Session Room:	Room B (103)
Session Chair(s):	Mun Pyo Hong (Korea Univ., Korea)

[WB2-1] [Featured Invited] On-line (Live Streaming) / 15:00-15:30

Perovskite Light Emitting Diodes with Good Quantum Efficiency at Current Densities of kA/cm^2

Paul Heremans, Iakov Goldberg, Karim Elkhouly, Weiming Qiu, Nirav Annavarapu, Robert Gehlhaar, Cedric Rolin, Tung-Huei Ke, and Jan Genoe (imec, Belgium)

[WB2-2] [Invited] On-line (Pre-recorded) / On-demand

Porous Conductive Textiles for Wearable Electronics

Zijian Zheng (The Hong Kong Polytechnic Univ., China)

[WB2-3] Off-line / 15:30-15:45

Structural Engineering for Improving Flexibility and Stretchability of a-InGaZnO TFTs for Wearable Electronic Device Application

Ki-Lim Han, Won-Bum Lee, and Jin-Seong Park (Hanyang Univ., Korea)

[WB2-4] Off-line / 15:45-16:00

Highly-Stable Stretchable Electrode for High Resolution Wearable Electronics

Ji Hun Choi, Chan Woo Park, Ji-Young Oh, Bock Soon Na, Jong-Heon Yang (ETRI, Korea), Seunghyup Yoo (KAIST, Korea), and Chi-Sun Hwang (ETRI, Korea)

[WB2-5] On-line (Pre-recorded) / On-demand

Simulations of Island-Bridge Structure for Stretchable Display

Jiaoyang Li, Bo Yuan, Fanzhong Bu (Kunshan New Flat Panel Display Tech. Center Co., Ltd., China), Yaling Wang, Guizhou Qiao, and Qi Shan (Visionox Tech. Inc., China)

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Session Title:	[WC2] Oral 06. AR/VR/MR and 3D Display Optics
Session Date:	August 25 (Wednesday), 2021
Session Time:	15:00-16:30
Session Room:	Room C (104+105)
Session Chair(s):	Jisoo Hong (KETI, Korea) Soon-gi Park (Letinar, Korea)

[WC2-1] [Featured Invited] On-line (Live Streaming) / 15:00-15:30

TBA

Hong Hua (Univ. of Arizona, USA)

[WC2-2] Off-line / 15:30-15:45

Thin Virtual Reality Display Using Fresnel Lenslet Array with Low Distortion

Kiseung Bang, Youngjin Jo, Minseok Chae, and Byoungho Lee (Seoul Nat'l Univ., Korea)

[WC2-3] Off-line / 15:45-16:00

2D/3D Image Switching Holographic Waveguide-Type HOE Using the LC-MLA

Nyamsuren Darkhanbaatar, Munkh-Uchral Erdenebat, Anar Khuderchuluun, Byung-Chul Lee (Chungbuk Nat'l Univ., Korea), Hak-Rin Kim (Kyungpook Nat'l Univ., Korea), and Nam Kim (Chungbuk Nat'l Univ., Korea)

[WC2-4] Off-line / 16:00-16:15

See-Through 360-Degree High-Speed Light-Field Display Using Holographic Asymmetric Diffuser

Mun Seong Park, Myung jun Ko, Daerak Heo, Hosung Jeon, Minwoo Jung, and Joonku Hahn (Kyungpook Nat'l Univ., Korea)

[WC2-5] Off-line / 16:15-16:30

Light Field Display Modeling

Ji Ho Lee, Hea In Jeong, and Young Ju Jeong (Sookmyung Women's Univ., Korea)

[WC2-6] [Invited] On-line (Pre-recorded) / On-demand

Light-Field AR Glasses

Tomas Sluka (CREAL, Switzerland)

[WC2-7] [Invited] On-line (Pre-recorded) / On-demand

TBA

Martin Banks (UC Berkeley, USA)

[WC2-8] [Invited] On-line (Pre-recorded) / On-demand

Recent Progresses in Time-Multiplexed Parallax Barrier Technologies

Hideki Kakeya (The Univ. of Tsukuba, Japan)

[WC2-9] On-line (Pre-recorded) / On-demand

Fast Tunable 8-Focus Ferroelectric Liquid Crystal Lenses for Virtual Reality

Zheng-Nan Yuan, Ming Cheng, Zhi-Bo Sun, An-Ran Li, Souptik Mukherjee, Hoi-Sing Kwok, and Abhishk. K. Srivastava (Hong Kong Univ. of Science and Tech., China)

[WC2-10] On-line (Pre-recorded) / On-demand

Visual Discomfort Reduction in Head Mounted Display by Moving the Lens according to the Gaze-Point Motion

Yuto Mori, Haruki Mizushina, Kenji Yamamoto, and Shiro Suyama (Tokushima Univ., Japan)

[WC2-11] On-line (Pre-recorded) / On-demand

Robust Hazy Film with High Optical Transmittance to Reduce Screen-Door Effect in Virtual Reality Display

Won Seok Cho and Jong-Lam Lee (POSTECH, Korea)

[WC2-12] On-line (Pre-recorded) / On-demand

Analysis of Zernike Aberration in Off-Axis HOE for AR Glasses

Seongju Lee, Hosung Jeon, Daerak Heo, Woonchan Moon, Minwoo Jung, and Joonku Hahn (Kyungpook Nat'l Univ., Korea)

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Session Title:	[WA3] Oral 07. Manufacturing Analysis with AI/Simulation
Session Date:	August 25 (Wednesday), 2021
Session Time:	17:00-18:25
Session Room:	Room A (101+102)
Session Chair(s):	Yudeok Seo (Samsung Display Co., Ltd., Korea)

[WA3-1] [Invited] Off-line / 17:00-17:25

Quality Control and Process Understanding in Display Manufacturing

Il-Chul Moon (KAIST, Korea)

[WA3-2] Off-line / 17:25-17:40

Targeted Machine Sound Separation by Deep Noise Verification

Jungwon Ryu, Hankyeol Lee, Euiyeol Oh, Changgone Kim, and Sooyoung Yoon (LG Display Co., Ltd., Korea)

[WA3-3] Off-line / 17:40-17:55

Two-Tier Ensemble Deep Learning Model for Anomaly Detection in OLED Encapsulation Process

Younggil Jin, Jongmyong Choi, and Pilho Kim (Samsung Display Co., Ltd., Korea)

[WA3-4] Off-line / 17:55-18:10

Edge-Aware Layer Segmentation for Scanning Electron Microscope Image

Jinwoo Seo, Hyebin Lee, Hyunji Pak, Dongshin Choi, Minbeom Kim, Ilho Kim, Seokwoo Lee, and Sooyoung Yoon (LG Display Co., Ltd., Korea)

[WA3-5] Off-line / 18:10-18:25

EXplainable AI(XAI) for Low Gray Failure Analysis

Kyongtae Park, Changyun Moon, Sungjun Kim, and Donghoon Jung (Samsung Display Co., Ltd., Korea)

[WA3-6] [Invited] On-line (Pre-recorded) / On-demand

Predictive Modeling of Thermal Reflow Process for Photosensitive Polyimide

Vitaly Domnenko (Synopsys SPb LLC, Russia), Eun-Soo Jeong, Sang Yil Chang (Synopsys Korea Inc, Korea), Juergen Preuninger, Ulrich Klostermann, and Mariya Braylovska (Synopsys GmbH, Germany)

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Session Title:	[WB3] Oral 08. High Resolution Display and Technologies
Session Date:	August 25 (Wednesday), 2021
Session Time:	17:00-18:05
Session Room:	Room B (103)
Session Chair(s):	Hyunkoo Lee (Sookmyung Women's Univ., Korea) Donggu Lee (Gyeongsang Nat'l Univ., Korea)

[WB3-1] [Invited] On-line (Pre-recorded) / On-demand

High-Resolution OLED Microdisplays Providing Digital Micro-Photoemission and -Detection for Imaging and Excitation

Uwe Vogel, Philipp Wartenberg, Judith Baumgarten, and Bernd Richter (Fraunhofer Inst. for Organic Electronics, Germany)

[WB3-2] [Invited] Off-line / 17:00-17:25

Development of RGB Direct Patterning OLED Micro-Display

Jae Hoon Jung, Chiwoo Kim, Dong Young Sung, Jae Seok Park (APS Holdings Corp., Korea), Taekyung Kim (Hongik Univ., Korea), Jong Kab Park, Doh Hoon Kim, and Kiro Jung (APS Holdings Corp., Korea)

[WB3-3] [Invited] On-line (Pre-recorded) / On-demand

Improving the Outcoupling Efficiency of OLED Displays

Wan-Yu Lin, Chung-Chia Chen, Hyunsung Bang, Lisong Xu, Gang Yu, B. Leo Kwak, Robert Jan Visser (Applied Materials, Inc., USA), Yi-Ting Chen, Sheng-Wen Wen, Po-Hsiang Liao, Chang-Cheng Lee, Wei-Kai Lee, Chun-Wei Huang, Guo-Dong Su, Hoang Yan Lin, and Chung-Chih Wu (Nat'l Taiwan Univ., Taiwan)

[WB3-4] [Invited] Off-line / 17:25-17:50

High-Resolution Patterning of OLEDs through Solution and Evaporation Hybrid Process

Kwan Hyun Cho, Jun Yeub Lee, Yong-Cheol Jeong, and Kyung-Tae Kang (KITECH, Korea)

[WB3-5] [Invited] On-line (Pre-recorded) / On-demand

Technology Developments in FMM-Free Direct R-G-B Smart OLED Pixels

Tung-Huei Ke, Calvin Mona Sandeheng, Erwin Vandenplas, Pawel E. Malinowski, and Paul Heremans (IMEC, Belgium)

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[WB3-6] Off-line / 17:50-18:05

3,000 ppi Monochrome White Micro-Display based on Organic Light Emitting Diodes on Silicon (OLEDoS) with Low Driving Voltage Characteristics

Myungchan An, Yong Woo Kwon, and Hyeong Woo Bae (GERI, Korea)

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Session Title:	[WC3] Oral 09. Holography & Aerial Displays
Session Date:	August 25 (Wednesday), 2021
Session Time:	17:00-18:40
Session Room:	Room C (104+105)
Session Chair(s):	Keehoon Hong (ETRI, Korea)

[WC3-1] [Invited] Off-line / 17:00-17:25

Key Devices for Slim Holographic Flat Panel Display

Hoon Song, Chil-Sung Choi, Jungkwuen An, Young Kim, Kanghee Won, Yunhee Kim, Hong Suk Kim, Jong-Yong Hong, Hyeonseung Yu (SAIT, Korea), Aleksander Morozov, German Dubinin, Andrey Manko (Samsung Research Russia, Russia), Hong-Seok Lee, and Sunghoon Hong (SAIT, Korea)

[WC3-2] Off-line / 17:25-17:40

Standalone 360-Degree Digital Holographic Display

Daerak Heo, Hosung Jeon, Sunjin Lim (Kyungpook Nat'l Univ., Korea), Hwi Kim (Korea Univ., Korea), Youngju Kim, Kangbae Lee (Yunam Optics, Korea), and Joonku Hahn (Kyungpook Nat'l Univ., Korea)

[WC3-3] Off-line / 17:40-17:55

Binary-Encoded Full Color Hologram Using Error Diffusion for a Digital Micro-Mirror Device

Kyosik Min and Jae-Hyeung Park (Inha Univ. Korea)

[WC3-4] Off-line / 17:55-18:10

Structured Light Depth Estimation System Using Geometric Phase Self-Interference Incoherent Digital Holography

Youngrok Kim, Hogil Baek, and Sung-Wook Min (Kyung Hee Univ., Korea)

[WC3-5] Off-line / 18:10-18:25

Fabrication of Holographic Asymmetric Diffuser for 360-Degree Light Field Display

Myungjun Ko, Hosung Jeon, Daerak Heo, Minwoo Jung, and Joonku Hahn (Kyungpook Nat'l Univ., Korea)

[WC3-6] Off-line / 18:25-18:40

Generation of High View-Reference-Point Density in Time-Sequential Super Multi View Display

Sungjin Lim, Hosung Jeon, Minwoo Jung, Daerak Heo, and Joonku Hahn (Kyungpook Nat'l Univ., Korea)

[WC3-7] [Invited] On-line (Pre-recorded) / On-demand

Fundamentals and Recent Developments on Aerial Display for Touchless Interface

Masaki Yasugi and Hirotsugu Yamamoto (Utsunomiya Univ., Japan)

[WC3-8] [Invited] On-line (Pre-recorded) / On-demand

Enhanced Resolution for Computer Generated Holographic Display Using the Phase-Only SLMs

Zehao He, Kexuan Liu, Xiaomeng Sui, Jiachen Wu, and Liangcai Cao (Tsinghua Univ., China)

[WC3-9] On-line (Pre-recorded) / On-demand

Volumetric Display with Multicolor based on Re-Imaging of Aerial Graphics Rendered by Femtosecond Laser Excitation

Kota Kumagai, Shun Miura, and Yoshio Hayasaki (Utsunomiya Univ., Japan)

[WC3-10] On-line (Pre-recorded) / On-demand

A New Rewriting Method for Arc 3D Display by Utilizing Fresnel Arc Structures and Their Vertical-Shift Arrangement

Haruto Taguchi, Haruki Mizushina, Kenji Yamamoto, and Shiro Suyama (Tokushima Univ., Japan)

[WC3-11] On-line (Pre-recorded) / On-demand

MTF Measurement of Aerial Image Formed by Retro-Reflection with Polarization

Kazuaki Takiyama, Haotong Guo, Ryota Kakinuma, Masaki Yasugi, and Hitotsugu Yamamoto (Utsunomiya Univ., Japan)

[WC3-12] On-line (Pre-recorded) / On-demand

Influence of Floating Distance on Imaging Resolution in Aerial Imaging by Retro-Reflection (AIRR)

Haotong Guo, Kazuaki Takiyama, Ryota Kakinuma, Masaki Yasugi, and Hirotsugu Yamamoto (Utsunomiya Univ., Japan)

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Session Title:	[TA1] Oral 10. High Performance Oxide and Si TFT
Session Date:	August 26 (Thursday), 2021
Session Time:	09:00-10:35
Session Room:	Room A (101+102)
Session Chair(s):	Myung-Gil Kim (Sungkyunkwan Univ., Korea) Hyun-Suk Kim (Chungnam Nat'l Univ., Korea)

[TA1-1] [Invited] Off-line / 09:00-09:25

Versatile Design of Oxide Semiconductor by Atomic Layer Deposition for High-Performance, Low-Power TFTs

Min Hoe Cho, Hyunjoo Seul, Jae Seok Hur, and Jae Kyeng Jeong (Hanyang Univ., Korea)

[TA1-2] [Invited] Off-line / 09:25-09:50

Highly Robust IGZO TFTs Using Spreading Currents

Suhui Lee and Jin Jang (Kyung Hee Univ., Korea)

[TA1-3] Off-line / 09:50-10:05

Realization of High-Performance Oxide Thin-Film Transistors with Submicron Channel Length Using Conventional Photolithography Process for High Resolution Active-Matrix Display Backplane

Chihun Sung, Sooji Nam, and Sung Haeng Cho (ETRI, Korea)

[TA1-4] Off-line / 10:05-10:20

Stress Manipulated Metal-Oxide Thin-Film Transistors and Integrated Circuits for Highly Reliable Stretchable Electronics

Kyung-Tae Kim, Seung-Han Kang, Chan-Yong Park, Hunbum Park, and Sung Kyu Park (Chung-Ang Univ., Korea)

[TA1-5] Off-line / 10:20-10:35

Realization of Long-Term Visual Memory Enhanced Amorphous IGZO-Based Optical Synaptic Transistor by Oxide Mesh and Insulator Insertion

Dongwoo Kim, Won Kyung Min, Hyung Tae Kim, Jusung Chung, Min Seong Kim, and Hyun Jae Kim (Yonsei Univ., Korea)

[TA1-6] [Invited] On-line (Pre-recorded) / On-demand

A Technology for the Monolithic Integration of Low-Temperature Polysilicon and Elevated-Metal Metal-Oxide Thin-Film Transistors

Man Wong and Sisi Wang (HKUST, Hong Kong)

[TA1-7] [Invited] On-line (Pre-recorded) / On-demand

Scalable Atomic Layer Deposition for P-Type and N-Type Oxide Semiconductor TFTs

Rebecca L. Peterson, Chris Allemang, Tae Cho, Julia D. Lenef, Jaesung Jo, and Neil P. Dasgupta (Univ. of Michigan, USA)

[TA1-8] [Invited] On-line (Pre-recorded) / On-demand

Novel Oxide TFTs that Show Immunity to Negative Bias Illumination Stress and Short Channel Effect

Aimin Song (The Univ. of Manchester, UK)

[TA1-9] [Invited] On-line (Pre-recorded) / On-demand

Low Cost Amorphous ZnSnO TFT Technology for Large Area Electronics

Shengdong Zhang, Huan Yang, Gang Wang, and Hongyang Zuo (Peking Univ., China)

[TA1-10] On-line (Pre-recorded) / On-demand

Incorporation of Small Radius Metallic Elements for Low Temperature-Processed Amorphous Oxide Thin-Film-Transistors

Jae Sang Heo (Sungkyunkwan Univ., Korea), Seong-Pil Jeon, Chang-Yong Park, Hun Bum Park (Chung-Ang Univ., Korea), Yong-Hoon Kim, Myung-Gil Kim (Sungkyunkwan Univ., Korea), and Sung Kyu Park (Chung-Ang Univ., Korea)

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Session Title:	[TB1] Oral 11. Young Leaders Conference 1: Material, Process, and Device for the Emerging Display Technology
Session Date:	August 26 (Thursday), 2021
Session Time:	09:00-10:00
Session Room:	Room B (103)
Session Chair(s):	Sooyoung Kim (Korea Univ., Korea)

[TB1-1] Off-line / 09:00-09:15

Direct Optical Patterning of Quantum Dot Light-Emitting Diodes

Himchan Cho (KAIST, Korea)

[TB1-2] Off-line / 09:15-09:30

Timed Control of Tunable White LED for Creating a Supportive Learning Environment

Kyungah Choi (Sungshin Women's Univ., Korea)

[TB1-3] On-line (Pre-recorded) / On-demand

From Light Responsive Liquid Crystalline Polymers to Remote Controllable Smart Materials

Dae-Yoon Kim (KIST, Korea)

[TB1-4] On-line (Pre-recorded) / On-demand

Liquid Crystal Smart Glasses for Higher Color Contrast and Reduced Glare

Seungwon Oh (Kangwon Nat'l Univ., Korea)

[TB1-5] Off-line / 09:30-09:45

Requirements for High-Resolution Stretchable Displays

Haeyoon Jung (LG Display Co., Ltd., Korea)

[TB1-6] On-line (Pre-recorded) / 09:30-09:45

Dynamic Designer Phase-Change Metafilm for Versatile Visible Light Modulation

Sun-Je Kim (Myongji Univ., Korea)

[TB1-7] On-line (Pre-recorded) / On-demand

Surface Modification of Graphene Quantum Dots for Optoelectronic Applications

Minsu Park (KAIST, Korea)

[TB1-8] On-line (Pre-recorded) / On-demand

Novel Technology for Blue OLED Based Display

Jiahui Tan (Chinese Academy of Sciences, China)

[TB1-9] On-line (Pre-recorded) / On-demand

Highly Efficient Electronic Chip Cooling Device based on Polymer Film

Rujun Ma (Nankai Univ., China)

[TB1-10] On-line (Pre-recorded) / On-demand

Interactive Artificial Sensory Synapse Based on Neuromorphic Transistors

Jinran Yu (Chinese Academy of Sciences, China)

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Session Title:	[TC1] Oral 12. 2D Materials for Display
Session Date:	August 26 (Thursday), 2021
Session Time:	09:00-10:10
Session Room:	Room C (104+105)
Session Chair(s):	Seokwoo Jeon (KAIST, Korea) Gwan-Hyoung Lee (KAIST, Korea)

[TC1-1] [Invited] Off-line / 09:00-09:25

Group III-Nitride Semiconductor Micro and Nano Structures for Lighting and Display Applications

Yong-Hoon Cho (KAIST, Korea)

[TC1-2] [Invited] On-line (Pre-recorded) / On-demand

High Color Gamut OLED Material Sets for Reduced Power Consumption Laptop Applications

Mike Hack, Michael S. Weaver, Julie J. Brown (UDC, USA), Kunjal Parikh, Kathy Bui, and Vishal Sinha (Intel Corp., USA)

[TC1-3] Off-line / 09:25-09:40

Graphene Interlayer for Metal/Semiconductor Junctions with Minimized Metal-Induced Gap States

Jun-Ho Park, Seong-Jun Yang, Chang-Won Choi, Si-Young Choi, and Cheol-Joo Kim (POSTECH, Korea)

[TC1-4] Off-line / 09:40-09:55

Aggregation-Induced Emission of Graphene Quantum Dot Modified with Molecular Rotors toward Efficient Solid-State Lighting

Sukki Lee, Jinho Lee, and Seokwoo Jeon (KAIST, Korea)

[TC1-5] Off-line / 09:55-10:10

Graphene Nanoribbon Grid for Conducting Films with 1D Characteristics

Shinyoung Choi, Namjo Kim, Seong-Jun Yang, Jun-Ho Park, Nguyen Ngan Nguyen, Kwanghee Park, Sunmin Ryu, Kilwon Cho, and Cheol-Joo Kim (POSTECH, Korea)

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[TC1-6] On-line (Pre-recorded) / On-demand

Desolvation-Triggered Versatile Transfer-Printing of Pure BN Films with Thermal-Optical Dual Functionality

YuJin Han, Hyeuk Jin Han, Cheolkyu Kim, Moohyun Kim, Hunhee Lim, Hanhwi Jang, Taek-Soo Kim, Eugene N. Cho, and Yeon Sik Jung (KAIST, Korea)

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Session Title:	[TA2] Oral 13. Organic TFT and Solution Processed TFT
Session Date:	August 26 (Thursday), 2021
Session Time:	11:00-12:10
Session Room:	Room A (101+102)
Session Chair(s):	Hocheon Yoo (Gachon Univ., Korea)

[TA2-1] [Invited] Off-line / 11:00-11:25

Rapid Photochemical Activation for High-Quality Sol-Gel Metal Oxide Dielectrics

Sungjun Park (Ajou Univ., Korea)

[TA2-2] Off-line / 11:25-11:40

Enhanced Sensitivity Hybrid Channel Organic Phototransistor with Light-Induced Contact Modulation for Under-Display Applications

Dongho Choi, Haechang Lee, Jaehyeok Park (KAIST, Korea), Hanul Moon (Dong-A Univ., Korea), and Seunghyup Yoo (KAIST, Korea)

[TA2-3] Off-line / 11:40-11:55

Improved Charge Transport Behaviour and Trap-State Distribution in Donor-Acceptor Type Semiconducting Copolymer with Fluoropolymer Dielectric Layer

Doyeon Kim and Jiyoul Lee (Pukyong Nat'l Univ., Korea)

[TA2-4] On-line (Pre-recorded) / On-demand

Flexible and Printed Active-Matrix TFT Array for Sensor Applications

Sanghoon Baek, Sungju Kim, and Sungjune Jung (POSTECH, Korea)

[TA2-5] Off-line / 11:55-12:10

A Novel Fabrication Method of a High Sensitivity and Low Leakage Current Phototransistors based on a Homojunction Porous IGZO Thin-Film Transistors

I Sak Lee, Sujin Jung, Jong Bin An, and Hyun Jae Kim (Yonsei Univ., Korea)

[TA2-6] [Invited] On-line (Pre-recorded) / On-demand

Organic Permeable Base Light-Emitting Transistors – An Innovative Device for Active-Matrix Displays

Hans Kleemann, Zhongbin Wu, Erjuan Guo, and Karl Leo (TU Dresden, Germany)

[TA2-7] On-line (Pre-recorded) / On-demand

Insulator-to-Semiconductor Conversion of Solution-Processed Amorphous Gallium Oxide Thin Film Transistor through Hydrogen Annealing

Diki Purnawati, Juan Paolo Bermundo, and Yukiharu Uraoka (Nara Inst. of Science and Tech., Japan)

[TA2-9] [Invited] On-line (Pre-recorded) / On-demand

Field-Effect Transistors based on Solution Processed sp-Hybridized Organic Semiconducting Molecules

Stefano Pecorario (IIT, Italy), Carlo Casari (Politecnico di Milano, Italy), and Mario Caironi (IIT, Italy)

[TA2-10] [Invited] On-line (Pre-recorded) / On-demand

High Performance Organic Field Effect Transistors Developed by Solution Processing

Paddy K. L. Chan (The Univ. of Hong Kong, Hong Kong)

[TA2-11] [Invited] On-line (Pre-recorded) / On-demand

Deep-Subthreshold Ambipolar TFTs for Self-Powered Electronics

Vincenzo Pecunia (Soochow Univ., China)

[TA2-12] [Invited] On-line (Pre-recorded) / On-demand

Polymer Transistors With Sub-Domain-Size Channels

Huabin Sun (Nanjing Univ. of Posts and Telecommunications, China), Dakuang Zhang (Nanjing Univ., China), and Yong Xu (Nanjing Univ. of Posts and Telecommunications, China)

[TA2-13] [Invited] On-line (Pre-recorded) / On-demand

n-Type Polymer Semiconductors Based on Bithiophene Imide

Xugang Guo (Southern Univ. of Sci. and Tech., China)

[TA2-14] [Invited] On-line (Pre-recorded) / On-demand

Foundry-Compatible High-Resolution Patterning of Organic Thin-Film Transistors

Binghao Wang (Southeast Univ., China), Wei Huang (Northwestern Univ., USA), Sunghoon Lee, Tomoyuki Yokota, Takao Someya (The Univ. of Tokyo, Japan), Tobin J. Marks, and Antonio Facchetti (Northwestern Univ., USA)

[TA2-15] [Invited] On-line (Pre-recorded) / On-demand

Solution-Processable Stretchable Polymer Semiconductor for Field-Effect Transistors

Wen-Ya Lee (Nat'l Taipei Univ. of Tech., Taiwan)

[TA2-16] [Invited] On-line (Pre-recorded) / On-demand

Efficient Doping of Organic Semiconductors for High-Performance Devices

Yuanyuan Hu (School of Physics and Electronics, China)

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Session Title:	[TB2] Oral 14. Young Leaders Conference 2
Session Date:	August 26 (Thursday), 2021
Session Time:	11:00-12:30
Session Room:	Room B (103)
Session Chair(s):	Jin-Seong Park (Hanyang Univ., Korea) Sooyoung Kim (Korea Univ., Korea)

[TB2-1] On-line (Pre-recorded) / On-demand

Merits of Narrow FWHM Blue Emitter in Top Emission OLED

Hye In Yang, Sang Min Cho, Seung Hyun Lee, and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

[TB2-2] On-line (Pre-recorded) / On-demand

Quantum-Dot and Organic Hybrid Light-Emitting Diodes with Reduced Process Steps for Full-Color Displays

Suhyeon Lee and Jeonghun Kwak (Seoul Nat'l Univ., Korea)

[TB2-3] On-line (Pre-recorded) / On-demand

Dynamic Vectorial Holographic Color Prints by Liquid Crystal-Integrated Metasurface for Anti-Counterfeiting

Gyeongtae Kim, Inki Kim, Jaehyuck Jang, and Junsuk Rho (POSTECH, Korea)

[TB2-4] On-line (Pre-recorded) / On-demand

Near-Infrared Phosphorescence Enhancement by Intermolecular Metal-to-Ligand-to-Ligand Charge Transfer

Hae Un Kim, Taehyun Kim, and Taiho Park (POSTECH, Korea)

[TB2-5] On-line (Pre-recorded) / On-demand

Transparent Flexible Nanoline Field-Effect Transistor (NL-FET) Array with High-Integration in Large-Area

Dong Wook Kim and Unyong Jeong (POSTECH, Korea)

[TB2-6] On-line (Pre-recorded) / On-demand

Ink-Jet Printing Perovskite Emissive Color Filter for Liquid Crystal Display

Yiyang Gao, Maksym F. Prodanov, Chengbin Kang, Valerri V. Vashchenko, and Abhishek K. Srivastava (Hong Kong Univ. of Science and Tech., Hong Kong)

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Session Title:	[TC2] Oral 15. Perovskite LED
Session Date:	August 26 (Thursday), 2021
Session Time:	11:00-12:20
Session Room:	Room C (104+105)
Session Chair(s):	Himchan Cho (KAIST, Korea)

[TC2-1] [Invited] Off-line / 11:00-11:25

Overcoming Fundamental Limitations of Perovskite Light-Emitting Diodes

Himchan Cho (KAIST, Korea)

[TC2-2] [Invited] On-line (Pre-recorded) / On-demand

High-Performance Perovskite LEDs and Their Applications

Feng Gao (Linköping Univ., Sweden)

[TC2-4] Off-line / 11:25-11:40

Effect of Monovalent Metal Iodide in Organic-Inorganic Tin-Based Perovskite Transistor

Youjin Reo, Huihui Zhu, Ao Liu, Ji-Young Go, and Yong-Young Noh (POSTECH, Korea)

[TC2-5] Off-line / 11:40-11:55

High-Efficiency Perovskite Nanocrystal Light-Emitting Diodes via Defect Suppression

Young-Hoon Kim, Sungjin Kim (Seoul Nat'l Univ., Korea), Arvin Kakekhani (Univ. of Pennsylvania, USA), Jinwoo Park (Seoul Nat'l Univ., Korea), Jaehyeok Park (KAIST, Korea), Yong-Hee Lee (Seoul Nat'l Univ., Korea), Hengxing Xu (Univ. of Tennessee, USA), Satyawan Nagane (Univ. of Cambridge, UK), Robert B. Wexler (Univ. of Pennsylvania, USA), Dong-Hyeok Kim, Seung Hyeon Jo (Seoul Nat'l Univ., Korea), Laura Martínez-Sarti (Univ. de Valencia, Spain), Peng Tan (Univ. of Pennsylvania, USA), Aditya Sadhanala (Univ. of Cambridge, UK), Gyeong-Su Park, Young-Woon Kim (Seoul Nat'l Univ., Korea), Bin Hu (Univ. of Tennessee, USA), Henk J. Bolink (Univ. de Valencia, Spain), Seunghyup Yoo (KAIST, Korea), Richard H. Friend (Univ. of Cambridge, UK), Andrew M. Rappe (Univ. of Pennsylvania, USA), and Tae-Woo Lee (Seoul Nat'l Univ., Korea)

[TC2-6] Off-line / 11:55-12:05

Zinc Doped Copper Iodide (CuI) as Hole Transport Layer for Light-Emitting Diodes

Taesu Choi, Gi-Seong Ryu, and Yong-Young Noh (POSTECH, Korea)

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[TC2-7] Off-line / 12:05-12:20

Photothermally Cross-Linked Hexanuclear Oxozirconium Cluster as an Organic-Inorganic Hybrid Dielectric Material

Ga Hye Kim (Sungkyunkwan Univ., Korea), Do Jeon Kim (Chung-Ang Univ., Korea), and Myung-Gil Kim (Sungkyunkwan Univ., Korea)

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Session Title:	[TA3] Oral 16. Emerging Materials for TFT
Session Date:	August 26 (Thursday), 2021
Session Time:	14:00-15:10
Session Room:	Room A (101+102)
Session Chair(s):	Sungjun Park (Ajou Univ., Korea)

[TA3-1] [Featured Invited] On-line (Live Streaming) / 14:00-14:30

Large-Area Micro and Nanoelectronics Manufactured at a Flash

Thomas D. Anthopoulos (KAUST, Saudi Arabia)

[TA3-2] [Invited] Off-line / 14:30-14:55

High-Mobility TFTs Based on Zinc Oxynitride: Beyond Backplane for Display

Hyun-Suk Kim (Chungnam Nat'l Univ., Korea)

[TA3-3] [Invited] On-line (Pre-recorded) / On-demand

The Oxide and Oxynitride Semiconductor and Its TFTs for Display Application

Hyun-Jun Jeong and Jin-Seong Park (Hanyang Univ., Korea)

[TA3-4] Off-line / 14:55-15:10

Substrate Biasing Approach to Generate Artificial Oxygen Vacancy for Stable Nitrogen-Doped IGZO Thin-Film Transistors

Jueun Kim, Seongmin Park, Gilsu Jeon, Suwon Seong, and Yoonyoung Chung (POSTECH, Korea)

[TA3-5] On-line (Pre-recorded) / On-demand

$MASnI_3$-Based Perovskite Transistors and Inverters

Huihui Zhu, Ao Liu, Taoyu Zou, Youjin Reo, and Yong-Young Noh (POSTECH, Korea)

[TA3-6] [Invited] On-line (Pre-recorded) / On-demand

Tunable Light-Matter Interactions in Excitonic Semiconductors

Deep Jariwala (Univ. of Pennsylvania, USA)

[TA3-7] [Invited] On-line (Pre-recorded) / On-demand

Two-Dimensional Organic-Inorganic Hybrid Perovskite Field-Effect Transistors

Letian Dou (Purdue Univ., USA)

[TA3-8] [Invited] On-line (Pre-recorded) / On-demand

Patterning of Photosensitive Perovskite Materials on IGZO TFT Arrays for Imaging Applications

Hang Zhou (Peking Univ., China)

[TA3-9] [Invited] On-line (Pre-recorded) / On-demand

2D Organic Crystals and Their Applications

Yun Li (Nanjing Univ., China)

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Session Title:	[TB3] Oral 17. Display Integrated Interactive Sensor
Session Date:	August 26 (Thursday), 2021
Session Time:	14:00-15:35
Session Room:	Room B (103)
Session Chair(s):	Su Seok Choi (POSTECH, Korea) Do Hwan Kim (Hanyang Univ., Korea)

[TB3-1] [Featured Invited] On-line (Live Streaming) / 14:00-14:30

Film Cinematic Sound OLED

Chiwan Kim, SeungRyull Park, Sungwook Ko, Yongwoo Lee, JounHo Lee, JeomJae Kim, and SooYoung Yoon (LG Display Co., Ltd., Korea)

[TB3-2] [Invited] Off-line / 14:30-14:55

Highly Sensitive Pyramid-Plug Shaped Tactile Sensor for Detecting External Mechanical Stresses

Daehwan Choi, Taehoon Sung, and Jang-Yeon Kwon (Yonsei Univ., Korea)

[TB3-3] [Invited] Off-line / 14:55-15:20

Antenna-on-Display (AoD): Latest Developments and Future

Wonbin Hong (POSTECH, Korea)

[TB3-4] Off-line / 15:20-15:35

Ultra-Flexible Bimodal Sensor-Based High-Resolution Tactile Interfaces for Immersive Interactive Display

Hanbit Jin, Yunjeong Kim, Wooseup Youm (ETRI, Korea), Yulim Min (UST, Korea), Bocksoon Na (ETRI, Korea), Seyoung Kwon, Gyeongseok Park (KAIST, Korea), Chan-Hwa Hong, Chanwoo Park (ETRI, Korea), Steve Park (KAIST, Korea), and Hye Jin Kim (ETRI, Korea)

[TB3-5] [Invited] On-line (Pre-recorded) / On-demand

Haptic Interaction in Immersive Environments

Jin Ryong Kim (Univ. of Texas at Dallas, USA)

[TB3-6] On-line (Pre-recorded) / On-demand

Intrinsically Stretchable, Multimodal Tactile Sensor System based on Ion Relaxation Dynamics

Insang You and Unyong Jeong (POSTECH, Korea)

[TB3-7] On-line (Pre-recorded) / On-demand

User Interactive Display System for Integral Imaging Microscopy Using a Head Tracking Camera

Shariar Md Imtiaz, Ki-Chul Kwon, Oh-Seung Nam (Chungbuk Nat'l Univ., Korea), Jong-Rae Jeong (Suwon Science College, Korea), Seok-Hee Jeon (Incheon Nat'l Univ., Korea), Sang-Keun Gil (Suwon Univ., Korea), and Nam Kim (Chungbuk Nat'l Univ., Korea)

[TB3-8] On-line (Pre-recorded) / On-demand

Electro-Photoluminescence Color Changing System for Interactive Display and Deformable Visual Encryption

Gilwoon Lee, Salma Faiz, Yebin Park, Hyeongseok Choi, and Unyong Jeong (POSTECH, Korea)

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Session Title:	[TC3] Oral 18. MetaHologram
Session Date:	August 26 (Thursday), 2021
Session Time:	14:00-15:10
Session Room:	Room C (104+105)
Session Chair(s):	Gwanho Yoon (Seoul Nat'l Univ. of Science. and Tech., Korea) Jong Hyun Park (LG Display Co., Ltd., Korea)

[TC3-1] [Featured Invited] On-line (Live Streaming) / 14:00-14:30

Dispersion-Engineered Metasurface Components

Wei Ting Chen (Harvard Univ., USA)

[TC3-2] [Invited] Off-line / 14:30-14:55

Low-Cost Scalable Manufacturing of Dielectric Metasurfaces

Gwanho Yoon (Seoul Nat'l Univ. of Science and Tech., Korea)

[TC3-3] Off-line / 14:55-15:10

High-Capacity Optical Data Storage Using Orbital Angular Momentum Holography

Jaehyuck Jang (POSTECH, Korea), Haoran Ren (Ludwig Maximilian Univ. of Munich, Germany), Xinyuan Fang (Univ. of Shanghai for Science and Tech., China), Johannes Bürger, Stefan A. Maier (Ludwig Maximilian Univ. of Munich, Germany), and Junsuk Rho (POSTECH, Korea)

[TC3-5] On-line (Pre-recorded) / On-demand

Dynamic Meta-Holograms with Designer Liquid Crystals for Interactive Displays and Unconventional Photonic Sensors

Inki Kim, Won-Sik Kim, Young-Ki Kim, and Junsuk Rho (POSTECH, Korea)

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Session Title:	[TA4] Oral 19. Functional TFTs and Circuit
Session Date:	August 26 (Thursday), 2021
Session Time:	16:00-17:35
Session Room:	Room A (101+102)
Session Chair(s):	Myung-Gil Kim (Sungkyunkwan Univ., Korea)

[TA4-1] [Invited] Off-line / 16:00-16:25

Negative Differential Resistance and Negative Differential Transconductance: New Switching Behaviors from Heterojunction Devices

Hocheon Yoo (Gachon Univ., Korea)

[TA4-2] [Invited] Off-line / 16:25-16:50

Novel Pixel Circuit for Micro LED Display Suppressing Color Shift

Hwarim Im, Eun Kyo Jung, Sara Hong, Eunho Kim, and Yong-Sang Kim (Sungkyunkwan Univ., Korea)

[TA4-3] Off-line / 16:50-17:05

A New Pixel Circuit for Externally Compensated OLED Display

Kook Chul Moon and Kee Chan Park (Konkuk Univ., Korea)

[TA4-4] Off-line / 17:05-17:20

Bottom Gate-Controlled LTPS TFT Technologies for Improving Device Reliability in AMOLED Displays

Keunwoo Kim, Jaehwan Chu, Hanbit Kim, Sangun Choi, Jaeseob Lee, Dokyeong Lee, Joonwoo Bae, Tiennguyen Thanh, Taewook Kang, Hyeyong Chu, Changhee Lee, and Jinoh Kwag (Samsung Display Co., Ltd., Korea)

[TA4-5] Off-line / 17:20-17:35

Alleviation of Hot-Carrier Stress Degradation in Transversely Tensile-Strained p-Channel Poly-Si TFTs Fabricated on Plastic Substrate

Jaeseob Lee, Sanggun Choi, Taewook Kang, Hyeyong Chu, Changhee Lee, and Jinoh Kwag (Samsung Display Co., Ltd., Korea)

[TA4-6] On-line (Pre-recorded) / On-demand

Viable Approach to Convert LCD Lines for AMOLED Production: A Proof-of-Concept WOLED Plus Color Filter Display Panel

Xiao Chen (Mattrix Tech., USA), Hiromitsu Katsui, Keisuke Kuriyama (JSR Corp., Japan), Wooram Youn, Gyungmin Kim, In Sik Cho, David Cheney, Ramesh Jayaraman, Chris Samouce, Svetlana Vasilyeva, Andrew Rinzler, Max Lemaitre, and Bo Liu (Mattrix Tech., USA)

[TA4-7] On-line (Pre-recorded) / On-demand

Temperature-Compensated Pulse-Width Modulation Using Multimodal Transistors

Eva Bestelink (Univ. of Surrey, UK), Oliver de Sagazan (Univ. of Rennes, France), and Radu A. Sporea (Univ. of Surrey, UK)

[TA4-8] [Invited] On-line (Pre-recorded) / On-demand

TBA

Wentao Xu (Nankai Univ., China)

[TA4-9] [Invited] On-line (Pre-recorded) / On-demand

OFET Memory for Selective Light Monitoring

Xu Gao, Zhong-Da Zhang, Jing-Jing Lv, Lin-Xi Zhang, Jian-Long Xu, and Sui-Dong Wang (Soochow Univ., China)

[TA4-10] [Invited] On-line (Pre-recorded) / On-demand

Design Considerations for μLED Displays

Lynn Verschueren, Jan Genoe1, Mauricio Velazquez Lopez, Firat Tankut (imec, Belgium), Wim Van Eessen, Patrick Willem (Barco, Belgium), Wim Dehaene (ESAT, Belgium), and Kris Myny (imec, Belgium)

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Session Title:	[TB4] Oral 20. Advanced Materials and Light Sources for Lighting and Display Applications (I)
Session Date:	August 26 (Thursday), 2021
Session Time:	16:00-17:50
Session Room:	Room B (103)
Session Chair(s):	Jae-Hyeon Ko (Hallym Univ., Korea) In-Hwan Lee (Korea Univ., Korea)

[TB4-1] [Invited] Off-line / 16:00-16:25

Transferable and Deformable Light-Emitting Diodes Fabricated by Remote Epitaxy of Microrod Heterostructures

Young Joon Hong (Sejong Univ., Korea)

[TB4-2] [Invited] Off-line / 16:25-16:50

Improvement of the Electrical and Optical Performance of LED Array for Vehicle Headlight Application by Optimizing Processes

Sang-Youl Lee (Korea Univ., Korea), Ho-Young Kim (LG Innotek Co., Ltd., Korea), Hiroshi Amano (Nagoya Univ., Japan), and Tae-Yeon Seong (Korea Univ., Korea)

[TB4-3] Off-line / 16:50-17:05

Extremely Stable Luminescent Siloxane-Encapsulated Perovskite Resin as Color Converting Materials in Display

Junho Jang (KAIST, Korea), Young-Hoon Kim (NREL, USA), Yongmin Shin (KAIST, Korea), Tae-Woo Lee (Seoul Nat'l Univ., Korea), and Byeong-Soo Bae (KAIST, Korea)

[TB4-4] Off-line / 17:05-17:20

Near-Infrared Phosphorescence Enhancement by Intermolecular Metal-to-Ligand-to-Ligand Charge Transfer

Hae Un Kim, Taehyun Kim, and Taiho Park (POSTECH, Korea)

[TB4-5] Off-line / 17:20-17:35

Efficient Red Hyperfluorescence Device with Novel Design of Multi-Resonance Boron-Based Fluorescent Dopant

Soon Jae Hwang, Kenkera Rayappa Naveen, and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

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[TB4-6] Off-line / 17:35-17:50

Dual Thermally Activated Delayed Fluorescence for High Efficiency Fluorescent Organic Light Emitting Diodes

Kyung Hyung Lee and Jun Yeob Lee (Sungkyunkwan Univ., Korea)

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Session Title:	[TC4] Oral 21. Emerging Technologies for Medical/Bio-Integrated Devices and Display
Session Date:	August 26 (Thursday), 2021
Session Time:	16:00-17:10
Session Room:	Room C (104+105)
Session Chair(s):	Jang-Ung Park (Yonsei Univ., Korea)

[TC4-1] [Featured Invited] On-line (Live Streaming) / 16:00-16:30

Strong Light-Matter Coupling Allows Efficient Micro-Cavity OLEDs with High Angular Stability

Andreas Mischok, Sabina Hillebrandt, Seonil Kwon (Univ. of St Andrews, UK), and Malte C. Gather (Univ. of Cologne, Germany)

[TC4-2] [Invited] Off-line / 16:30-16:55

Soft, Resorbable Bioelectronics

Suk-Won Hwang (Korea Univ., Korea)

[TC4-3] [Invited] On-line (Pre-recorded) / On-demand

Flexible, Infrared Covert Displays with Hybrid Planar-Plasmonic Cavities

Young Min Song (GIST, Korea)

[TC4-4] Off-line / 16:55-17:10

Psoriasis Treatment Using a High Power Deformable OLED Patch

Young Cheol Seo, Ilkoo Noh, Yongmin Jeon, Hyeongseop Keum, Changjin Seo, Sangyong Jon, and Kyung Cheol Choi (KAIST, Korea)

[TC4-5] [Invited] On-line (Pre-recorded) / On-demand

2D Interlayer Enabled Electrical Ductility for Flexible Electronics and Display

Pilgyu Kang (George Mason Univ., USA), Chullhee Cho, Amir Taqieddin, Yuhang Jing, Keong Yong, Jin Myung Kim, Md Farhadul Haque, Narayana R. Aluru, and SungWoo Nam (Univ. of Illinois at Urbana-Champaign, USA)

[TC4-6] [Invited] On-line (Pre-recorded) / On-demand

Polymeric Devices for Infrared Upconversion Imagers and Haptic Interfaces

Ning Li, Yichen Zhai, and Tse Nga Ng (UC San Diego, USA)

[TC4-7] [Invited] On-line (Pre-recorded) / On-demand

Organic LEDs as Bio-Integrated Stimulation Platform

Caroline Murawski, Ilenia Meloni (Kurt Schwabe Inst. Meinsberg, Germany), Changmin Keum, Yali Deng, Andrew Morton, Stefan R. Pulver (Univ. of St Andrews, UK), and Malte C. Gather (Univ. of Cologne, Germany)

[TC4-8] [Invited] On-line (Pre-recorded) / On-demand

LEDs and MicroLEDs for Biophotonics Applications

Ioannis Kymissis, Keith Behrman, and Christopher Choi (Columbia Univ., USA)

[TC4-9] [Invited] On-line (Pre-recorded) / On-demand

Strain-Engineered Van der Waals Materials for Deformable Electronics

SungWoo Nam (Univ., of Illinois, USA)

[TC4-10] On-line (Pre-recorded) / On-demand

Integrated Retinal Prosthesis with Three-Dimensional Soft Bioelectrodes for Murine Vision Restoration

Won Gi Chung, Jiuk Jang, Hyobeom Kim, and Jang-Ung Park (Yonsei Univ., Korea)

[TC4-11] On-line (Pre-recorded) / On-demand

Multimodal Cardiac Organoid Sensing for Biomedical Modelling

Moohyun Kim, Jae Chul Hwang, and Jang-Ung Park (Yonsei Univ., Korea)

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Session Title:	[FA1] Oral 22. OLED Manufacturing
Session Date:	August 27 (Friday), 2021
Session Time:	09:00-10:05
Session Room:	Room A (101+102)
Session Chair(s):	Jonghee Lee (Hanbat Nat'l Univ., Korea)

[FA1-1] [Merck Award Winner] On-line (Pre-recorded) / On-demand

TBA

Seunghyup Yoo (KAIST, Korea)

[FA1-2] [Gold Prize of Kim Yong-Bae Award] On-line (Pre-recorded) / On-demand

Circular Polarized Luminescence from Chiral Superstructures

Jaejin Lee (Kyung Hee Univ., Korea)

[FA1-3] [Invited] Off-line / 09:00-09:25

Improved Efficiency of Organic Light-Emitting Diodes Utilizing Visible Parylene Films

Akpeko Gsonoo, Ye-Seul Lee, Ji-Hyeon Yoon, Baeksang Sung, Seung-Yo Baek, Yoonseuk Choi, Jae-Hyun Lee, and Jonghee Lee (Hanbat Nat'l Univ., Korea)

[FA1-4] [Invited] Off-line / 09:25-09:50

Recent Development in Soluble Blue-OLED Materials with High Efficiency and Long Lifetime

Jaechol Lee and Byungjae Kim (LG Chem Ltd., Korea)

[FA1-5] Off-line / 09:50-10:05

Solvent Formulation and Annealing of High-Boiling-Point OLED Inks for Improved Jetting Behavior and Dried Surface Morphology

Hyun Jun Kim, Min Young Kim, Robert Bail, Chil Won Lee, and Byung Doo Chin (Dankook Univ., Korea)

[FA1-6] [Invited] On-line (Pre-recorded) / On-demand

TBA

Junbiao Peng (South China Univ. of Tech., China)

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Session Title:	[FB1] Oral 23. Electro-Optical Application of LC Technology
Session Date:	August 27 (Friday), 2021
Session Time:	09:00-10:10
Session Room:	Room B (103)
Session Chair(s):	Chang-Jae Yu (Hanyang Univ., Korea) Yoonseuk Choi (Hanbat Nat'l Univ., Korea)

[FB1-1] [Invited] On-line (Pre-recorded) / On-demand

Self-Regulation of Infrared with a Liquid Crystal Smart Window for Energy-Saving

Seung-Won Oh (Kangwon Nat'l Univ., Korea), Sang-Hyeok Kim (Pusan Nat'l Univ., Korea), Wook-Sung Kim (POSTECH, Korea), and Tae-Hoon Yoon (Pusan Nat'l Univ., Korea)

[FB1-2] Off-line / 09:00-09:15

Traveling Waves of Molecular Reorientation in Homeotropic Cells

Vitaly Petrovich Panov, Jiseon Yang, Karunarathne L. Migara, Hyun-Jin Yoon, and Jang-Kun Song (Sungkyunkwan Univ., Korea)

[FB1-3] Off-line / 09:15-09:30

Analysis about Novel Design of Liquid Crystal Based Floating Electrode Free Coplanar Waveguide Phase Shifter for Performance Improvement

Junseok Ma, Hyunji Shin, and Wooksung Kim (POSTECH, Korea)

[FB1-4] Off-line / 09:30-09:45

Form Birefringence Based +C-Plate Made by ZnO Nanorods

Jongyoon Kim, Van Chuc Nguyen, and Ji-Hoon Lee (Jeonbuk Nat'l Univ., Korea)

[FB1-5] [Invited] Off-line / 09:45-10:10

High-Definition Pixelated Wrinkles of Liquid Crystalline Polymer for Electro-Optics Applications

Jun-Hee Na (Chungnam Nat'l Univ., Korea)

[FB1-6] [Invited] On-line (Pre-recorded) / On-demand

Liquid Crystal Lens Array based on Polymer Protrusion

Fan Chu and Qiong-Hua Wang (Beihang Univ., China)

[FB1-7] [Invited] On-line (Pre-recorded) / On-demand

Electrically Active and Thermally Responsive Liquid-Crystal Smart Window

Guan-Fu Sung, Po-Chang Wu, and Wei Lee (Nat'l Yang Ming Chiao Tung Univ., Taiwan)

[FB1-8] [Invited] On-line (Pre-recorded) / On-demand

Photo-Induced Liquid Crystal Alignment for Light Conversion

Wanlong Zhang, Juncheng Fang (Shenzhen Univ., China), Abhishek Srivastava (Hong Kong Univ. of Science and Tech., Hong Kong), Ting Lei (Shenzhen Univ., China), Hoi-Sing Kwok (Hong Kong Univ. of Science and Tech., Hong Kong), and Xiaocong Yuan (Shenzhen Univ., China)

[FB1-9] On-line (Pre-recorded) / On-demand

Novel Structure for 2-Dimensional Liquid Crystal Phase Grating with a Vertically Aligned Fringe-Field Switching Mode

Hyeon Seok Eo (POSTECH, Korea), Seung Won Oh (Kangwon Nat'l Univ., Korea), and Hyeon Seok Eo (POSTECH, Korea)

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Session Title:	[FC1] Oral 24. Display Electronics and Systems
Session Date:	August 27 (Friday), 2021
Session Time:	09:00-09:55
Session Room:	Room C (104+105)
Session Chair(s):	Soo-Yeon Lee (Seoul Nat'l Univ., Korea)

[FC1-1] [Invited] Off-line / 09:00-09:25

Low Complexity Foveation-Based Driving Pipeline for High Resolution Head Mounted Displays

Hyoungsik Nam, Seungjun Park, Young In Kim, Jina Bae, and Junhee Lee (Kyung Hee Univ., Korea)

[FC1-2] Off-line / 09:25-09:40

A Fast Bootstrapping Oxide TFT Gate Driver for High-Resolution and High-Frame-Rate Displays

Jun-Hyeok Kim, Yong-Duck Kim and Byong-Deok Choi (Hanyang Univ., Korea)

[FC1-3] Off-line / 09:40-09:55

Double-Gate AM-OLED Pixel Circuit Independent on TFT and OLED V_{th} Variation

Ji-Min Kang, Kyeong-Soo Kang, Ji-Hwan Park, and Soo-Yeon Lee (Seoul Nat'l Univ., Korea)

[FC1-4] On-line (Pre-recorded) / On-demand

Contents-Based Low Power Driving Technology Using Variable Potential for Large Panel Display

Seokha Hong, Dongjoon Kwag, Jaesung Bae, Joonchul Goh, and Wonjun Choe (Samsung Display Co., Ltd., Korea)

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Session Title:	[FA2] Oral 25. OLED Materials 1
Session Date:	August 27 (Friday), 2021
Session Time:	11:00-12:25
Session Room:	Room A (101+102)
Session Chair(s):	Youngmin You (Ewha Womans Univ., Korea) Jonghee Lee (Hanbat Nat'l Univ., Korea)

[FA2-1] [Invited] Off-line / 11:00-11:25

Intrinsic Stability of Thermally Activated Delayed Electroluminescence Materials

Youngmin You (Ewha Womans Univ., Korea)

[FA2-2] Off-line / 11:25-11:40

The Relation between Spin-Circulation and Roll-Off Behavior of TADF-Based OLEDs with Fast Reverse Intersystem Crossing

Hyung Suk Kim (KAIST, Korea), Ja Yeon Lee (Kyung Hee Univ., Korea), Seongjun Shin, Wonkyo Jeong (Korea Nat'l Univ. of Transportation, Korea), Sang Hoon Lee (Kyung Hee Univ., Korea), Seonghyeon Kim, Jihoon Lee (Korea Nat'l Univ. of Transportation, Korea), Min Chul Suh (Kyung Hee Univ., Korea), and Seunghyup Yoo (KAIST, Korea)

[FA2-3] Off-line / 11:40-11:55

A New Exciplex Host for Solution-Processed Green Phosphorescent Organic Light-Emitting Diodes

Bonju Koo, Hyejin Na (KRICT, Korea), Sangwook Lee (Kyungpook Nat'l Univ., Korea), and Jaemin Lee (KRICT, Korea)

[FA2-4] Off-line / 11:55-12:10

A Soluble Host Material with Indenocarbazole Moiety for Green Phosphorescent Organic Light Emitting Diodes by Solution Process

Eun Young Park, Da Hwan Lee, Thi Na Le (Kyung Hee Univ., Korea), Jihoon Lee (Korea Nat'l Univ. of Transportation, Korea), and Min Chul Suh (Kyung Hee Univ., Korea)

[FA2-5] Off-line / 12:10-12:25

Solution Processed Organic Light Emitting Diodes with Single Component Emitters Crosslinkable below 150°C for Solution Process

Da Hwan Lee, Jae-Min Yoo (Kyung Hee Univ., Korea), Kanghyuck Lee, Jihoon Lee (Korea Nat'l Univ. of Transportation, Korea), and Min Chul Suh (Kyung Hee Univ., Korea)

[FA2-6] [Invited] On-line (Pre-recorded) / On-demand

Pushing the Colour of Multi-Resonance Thermally Activated Delayed Fluorescence Materials towards the Red for Organic Light-Emitting Diodes

Eli Zysman-Colman (Univ. of St Andrews, UK)

[FA2-7] [Invited] On-line (Pre-recorded) / On-demand

Merck OLED: Beyond Materials Towards The Next Generation Display

Rémi Anémian et al. (Merck KGaA, Germany)

[FA2-8] On-line (Pre-recorded) / On-demand

High-Efficiency Near-Infrared Emission from Intermolecular Charge-Transfer Aggregates

Jie Xue, Jiajun Ren, and Juan Qiao (Tsinghua Univ., China)

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Session Title:	[FB2] Oral 26. Advance in Liquid Crystal Technology
Session Date:	August 27 (Friday), 2021
Session Time:	11:00-12:10
Session Room:	Room B (103)
Session Chair(s):	Jun-Hee Na (Chungnam Nat'l Univ., Korea) Seung-Won Oh (Kangwon Nat'l Univ., Korea)

[FB2-1] [Featured Invited] On-line (Live Streaming) / 11:00-11:30

Foldable Nano-Phase-Separated LCDs with 2.5 mm Radius of Curvature Using Polymerization Inhibitor

Takahiro Ishinabe (Tohoku Univ., Japan)

[FB2-2] [Invited] Off-line / 11:30-11:55

Transfer Molecular Functions to Anisotropic Liquid Crystal Material Properties

Kwang-Un Jeong (Jeonbuk Nat'l Univ., Korea)

[FB2-3] Off-line / 11:55-12:10

Design of Holographic Gas Sensor Using Liquid Crystallinity

Won-Sik Kim, Inki Kim, Jin-Kang Choi, Junsuk Rho, Young-Ki Kim (POSTECH, Korea)

[FB2-4] On-line (Pre-recorded) / On-demand

Fabrication of Chiral M13 Bacteriophage Film by Evaporation-Induced Coating Method

Soon Mo Park (KAIST, Korea), Won-Geun Kim (Pusan Nat'l Univ., Korea), Junkyu Kim (KAIST, Korea), Eun-Jung Choi (Pusan Nat'l Univ., Korea), Hyoungsoo Kim (KAIST, Korea), Jin-Woo Oh (Pusan Nat'l Univ., Korea), and Dong Ki Yoon (KAIST, Korea)

[FB2-5] On-line (Pre-recorded) / On-demand

Fabrication of Liquid Crystal Solitonic Structures for Physical Unclonable Function

Geonhyeong Park and Dong Ki Yoon (KAIST, Korea)

[FB2-6] [Invited] On-line (Pre-recorded) / On-demand

Chiral Volume Holograms Obtained by Alignment Control of Blue Phase Liquid Crystals

Hiroyuki Yoshida, Seong Yong Cho (Osaka Univ., Japan), Jun-ichi Fukuda (Kyushu Univ., Japan), and Masanori Ozaki (Osaka Univ., Japan)

[FB2-7] [Invited] On-line (Pre-recorded) / On-demand

Polar Cholesteric Liquid Crystal Phase – Its Appearance and Electro-Optic Propertie

Fumito Araoka and Hiroya Nishikawa (RIKEN, Japan)

[FB2-8] [Invited] On-line (Pre-recorded) / On-demand

Simple Methods for Measuring Flexoelectric Coefficients: $e_{11}+e_{33}$ with Capacitance Characteristics and $e_{11}-e_{33}$ with Disclination Lines

Yukihiro Kudoh, Noriki Shirai, Hiroki Shimoda, and Taiju Takahashi (Kogakuin Univ., Japan)

[FB2-9] [Invited] On-line (Pre-recorded) / On-demand

Programmable Crack Patterning with Liquid Crystal Polymer Substrates

Hyun Kim (US Army Research Lab., USA)

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Session Title:	[FC2] Oral 27. Manufacturing Technology for Future Display
Session Date:	August 27 (Friday), 2021
Session Time:	11:00-12:25
Session Room:	Room C (104+105)
Session Chair(s):	Ho Jun Kim (Gachon Univ. Korea) Myung Soo Huh (Samsung Display Co., Ltd., Korea)

[FC2-1] [Featured Invited] On-line (Live Streaming) / 11:00-11:30

Thin-Film Photodetectors Enabling Infrared Vision in Future Consumer Devices

Paweł E. Malinowski, Jiwon Lee, Epimitheas Georgitzikis, Vladimir Pejovic, Itai Lieberman, Joo-Hyoung Kim, Myung-Jin Lim, Griet Uytterhoeven, Luis Moreno Hagelsieb, TungHuei Ke, Yunlong Li, Renaud Puybaret, Gauri Karve, Tom Verschooten, Steven Thijs, Paul Heremans, and David Cheyns (imec, Belgium)

[FC2-2] [Invited] Off-line / 11:30-11:55

Facile Fabrication Process of a-IGZO Thin-Film Transistor Array using Multi level Self-Aligned Imprint Lithography

Changyun Na and Sung Min Cho (Sungkyunkwan Univ., Korea)

[FC2-3] Off-line / 11:55-12:10

A Thin Polymer Layer via Initiated Chemical Vapor Deposition for the Encapsulation of High Resolution OLEDs

Byeong Gyu Roh, Seung Chul Park (LG Display Co., Ltd., Korea), Yong Cheon Park, Sung Gap Im (KAIST, Korea), and Ji Ho Baek (LG Display Co., Ltd., Korea)

[FC2-4] Off-line / 12:10-12:25

A Study on Crucible Inner Pressure Change during Degradation of Liq

Sungmoon Kim, Taekgi Lee, Daejoon Chi, Gyoung O Ko (Depolab Inc., Korea), Yeonjin Yi, and Junho Kim (Yonsei Univ., Korea)

[FC2-5] [Invited] On-line (Pre-recorded) / On-demand

Fundamentals of Semidried Ink Patterning for High-Resolution Printed Electronics

Kusaka Yasuyuki and Fukuda Nobuko (Nat'l Inst. of Advanced Industrial Science and Tech., Japan)

[FC2-6] [Invited] On-line (Pre-recorded) / On-demand

Highly Flexible TFT Arrays for Sensor Applications

Manabu Ito, Noriaki Ikeda, Chihiro Miyazaki, Yukikazu Tanaka, Kaoru Hatta, and Mamoru Ishizaki (Toppan Printing Co., Ltd., Japan)

[FC2-7] [Invited] On-line (Pre-recorded) / On-demand

Recent Progress of Ultraflexible Organic Solar Cells and Photodetectors

Kenjiro Fukuda and Takao Someya (RIKEN, Japan)

[Invited] On-line (Pre-recorded) / On-demand

Fully-Printed Electronics Using Metal Nanoparticle Inks

Takeo Minari, Lingying Li (Nat'l Inst. for Materials Science, Japan), Qingqing Sun (Zhengzhou Univ., China), Wanli Li (Jiangnan Univ., China), and Xuying Liu (Zhengzhou Univ., China)

[FC2-10] On-line (Pre-recorded) / On-demand

Tunability of PIB-CVD Organosilicon Thin Films on Flexible Substrates

Ravindranath Viswan and David Douglass (Denton Vacuum, USA)

[FC2-11] On-line (Pre-recorded) / On-demand

Cu Process Development 50UD 120Hz LCD TVs Integrated Gate Driver GOA Circuit Using Four-Mask a-Si TFT

Hao Dong, An-thung Cho, Wen-Bing Wu, Yao-Feng Tsai, Yong Zhang, James Hsu, and Wade Chen (ChuZhou HKC Optoelectronics technology Co., Ltd., China)

[FC2-12] On-line (Pre-recorded) / On-demand

Ultra-Precise Deposition for Display Manufacturing: from Rapid Prototyping to Mass Production

Aneta Wiatrowska, Piotr Kowalczewski, Karolina Fiaczyk, Lukasz Witczak, Jolanta Gadzalinska, Mateusz Lysien, Ludovic Schneider, and Filip Granek (XTPL SA, Poland)

[FC2-13] On-line (Pre-recorded) / On-demand

Extremely Precise Laser Glass Cutting Technology for Future Display

Woohyun Jung , Hyungsik Kim, Sunggyu Park, Joongsung Lee, SeungHoon Jang, Junghwa You, Kyunghan Yoo, Jekil Ryu, SeongHo Jeong, and Cheol Lae Roh (Samsung Display Co., Ltd., Korea)

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[FC2-14] On-line (Pre-recorded) / On-demand

Breakthrough Technology; First Plane Source Evaporator for 10,000ppi AMOLED

Changhun Hwang, Sung Su Kim, In Ho Jeong, and Byung Doo Chin (Dankook Univ., Korea)

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Session Title:	[FA3] Oral 28. OLED Materials 2 - (Blue)
Session Date:	August 27 (Friday), 2021
Session Time:	14:00-15:15
Session Room:	Room A (101+102)
Session Chair(s):	TBA

[FA3-1] [Featured Invited] On-line (Live Streaming) / 14:00-14:30

Highly Efficient and Stable Blue Organic Light-Emitting Diodes

Jun Yeob Lee (Sungkyunkwan Univ., Korea)

[FA3-2] [Featured Invited] On-line (Live Streaming) / 14:30-15:00

Blue Emitting Square Planar Metal Complexes for Displays and Lighting Applications

Jian Li (Arizona State Univ., USA)

[FA3-3] [Invited] On-line (Pre-recorded) / On-demand

Fluorescence Materials with Core and Side Concepts Remain to be Areas to be Further Explored: Highly Efficient Dual-Core Derivatives with EQEs of 8.38%

Jongwook Park (Kyung Hee Univ., Korea)

[FA3-4] [Merck Young Scientist Award Winner] On-line (Pre-recorded) / On-demand

Blue Organic Light-Emitting Diodes by TADF Emitters

Soon Ok Jeon (Samsung Electronics Co., Ltd., Korea)

[FA3-5] [Gold Prize of Kim Yong-Bae Award] On-line (Pre-recorded) / On-demand

Indolo[3,2,1-jk]carbazole Based Multi-Resonance Materials for Blue Fluorescent Organic Light Emitting Diodes

Ui-Geon Lee (Sungkyunkwan Univ., Korea)

[FA3-6] Off-line / 15:00-15:15

Relationship of Device Lifetime and Bond Dissociation Energy of the Organic Materials in OLEDs

Thangaraji Vasudevan, Young Jae Shim, Ji Hun Kim, Seungjun Lee, Yongsup Park, and Min Chul Suh (Kyung Hee Univ., Korea)

[FA3-7] On-line (Pre-recorded) / On-demand

High Efficiency (23%), Narrow-Emitting (21 nm) and Ultrapure Deep Blue (CIEy~0.05) Organic Light-Emitting Diodes based on a New Mechanism of Purely Spin-Vibronic Coupling Assisted Thermally Activated Delayed Fluorescence

Ha Lim Lee, Vilas Venunath Patil (Sungkyunkwan Univ., Korea), Inkoo Kim (Samsung Electronics Co., Ltd., Korea), Kyung Hyung Lee, Won Jae Chung (Sungkyunkwan Univ., Korea), Joonghyuk Kim, Sangho Park, Hyeonho Choi, Won-Joon Son, Soon Ok Jeon (Samsung Electronics Co., Ltd., Korea), and Jun Yeob Lee (Sungkyunkwan Univ., Korea)

[FA3-8] On-line (Pre-recorded) / On-demand

Phenol and Diverse Aromatic Amines Based Asymmetric Blue Multi-Resonance TADF Emitters with Narrow Emission Band

Jinho Park, Jun Seop Lim, Junyoung Moon, Jeongkyu Woo, Seung Soo Yoon, and Jun Yeob Lee (Sungkyunkwan Univ., Korea)

[FA3-9] On-line (Pre-recorded) / On-demand

A Novel Electroplex Host with Dual Triplet Exciton Up-Converting Channels for Long Lifetime Blue Phosphorescent Organic Light-Emitting Diodes

Ju Hui Yun, Jae Min Kim, Won Jae Chung, Jun Seop Lim, Jun Yeob Lee (Sungkyunkwan Univ., Korea), Yoon Kyoo Lee, and Chang Woong Chu (Samsung Display Co., Ltd., Korea)

[FA3-10] [Invited] On-line (Pre-recorded) / On-demand

Improving the Stability of Blue OLEDs with TADF Sensitized Fluorescence

Lian Duan (NTHU, China)

[FA3-11] [Invited] On-line (Pre-recorded) / On-demand

Deep-Blue OLED Material Discovery by Machine Learning Models with High Predictive Power

Matthias Budzynski, Patrick Ruoff, and Thomas Baumann (cynora, Germany)

[FA3-12] [Invited] On-line (Pre-recorded) / On-demand

Key Optical Properties of Hyperfluorescent TADF OLEDs based on the ν-DABNA Fluorescent Emitter

Andy Monkman, Kleitos Stavrou, Andrew Danos (Durham Univ., UK), Toshiki Hama, and Takuji Hatakeyama (Kwansei Gakuin Univ., Japan)

[FA3-13] [Invited] On-line (Pre-recorded) / On-demand

Tuning the Excited State of Tetradentate Pt(II) and Pd(II) Complexes through Intramolecular Hydrogen Bond

Guijie Li (Zhejiang Univ. of Tech., China)

[FA3-14] [Invited] On-line (Pre-recorded) / On-demand

Highly Efficient, Long Lasting, and Color Pure Green and Blue Devices Utilizing Shared Exciton Energy Transfer

Georgios Liaptsis, Hamed Sharifidehsari, and Henning Marciniak (Cynora GmbH, Germany)

[FA3-15] [Invited] On-line (Pre-recorded) / On-demand

Increasing OLED Stability: Plasmonic PHOLED

Nicholas J. Thompson, Michael A. Fusella, Renata Saramak, Rezlind Bushati, Haridas Mundoor, Vinod M. Menon, Michael S. Weaver, Julia J. Brown (Universal Display Corp., USA)

[FA3-16] [Invited] On-line (Pre-recorded) / On-demand

A Sensitized Way towards Stable Blue OLEDs

Dongdong Zhang (Tsinghua Univ., China)

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Session Title:	[FB3] Oral 29. Recent Advance in QDs: from Materials to Devices
Session Date:	August 27 (Friday), 2021
Session Time:	14:00-14:55
Session Room:	Room B (103)
Session Chair(s):	Jeongkyun Roh (Pusan Nat'l Univ., Korea) Jaehoon Lim (Sungkyunkwan Univ., Korea)

[FB3-1] [Featured Invited] On-line (Live Streaming) / 14:00-14:30

Quantum Dots :Photo-luminance and Electro-luminance Materials for Display Manufacturing

Joon-Hyung Kim (Samsung Display Co., Ltd., Korea)

[FB3-2] [Invited] Off-line / 14:30-14:55

Environmentally Friendly Quantum Dot Light-Emitting Diodes

Hyosook Jang and Eunjoo Jang (Samsung Electronics Co., Ltd., Korea)

[FB3-3] On-line (Pre-recorded) / On-demand

Large Size Colloidal InAs QD Synthesis: Unraveling the Origin of Growth Limitation of Nanoparticles

Taewan Kim, Seongmin Park, and Sohee Jeong (Sungkyunkwan Univ., Korea)

[FB3-4] On-line (Pre-recorded) / On-demand

Colloidal Quantum Well Heterostructures with Widely Tunable Emission for Application in Light-Emitting Diodes

Da-Eun Yoon and Doh Chang Lee (KAIST, Korea)

[FB3-5] [Invited] On-line (Pre-recorded) / On-demand

TBA

Lei Qian (Chinese Academy of Science, China)

[FB3-6] [Invited] On-line (Pre-recorded) / On-demand

InP QDs with Enhanced Blue Light Absorption for Color Filter

Armin Wedel, Yohan Kim, André Gessner, Hyung Seok Choi, Jiyong Kim (Fraunhofer Inst. for Applied Polymer Research, Germany), Chul Jong Han, Min Suk Oh, and Byungwook Yoo (KETI, Korea)

[FB3-7] On-line (Pre-recorded) / On-demand

Advances in the Photostability of RoHS-Compliant QDs for On-Chip Down-Conversion: A Path forward for QD-MicroLED Displays

Igor Nakonechnyi, Valeriia Grigel, Rafael Prato, Adelaide Araujo, Bruno Janssens, Kim De Nolf, and Willem Walravens (QustomDot BV, Belgium)

[FB3-8] On-line (Pre-recorded) / On-demand

Quantum Nanorods Embedded into Hole Transport Material for Solution Processed Light-Emitting Diodes with Low Turn-On Voltage

Mikita M. Marus, Maksym F. Prodanov, Kumar Mallem, Valerii V. Vashchenko, and Abhishek K. Srivastava (Hong Kong Univ. of Science and Tech., Hong Kong)

[FB3-9] On-line (Pre-recorded) / On-demand

Optical Anisotropy in Cadmium-Free Colloidal Branched Nano-Heterostructures

Sungjun Koh and Doh C. Lee (KAIST, Korea)

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Session Title:	[FC3] Oral 30. Micro-LED Epitaxy, Chip Fabrication, Manufacturing Processes, and Active and Passive Driving Technologies
Session Date:	August 27 (Friday), 2021
Session Time:	14:00-15:40
Session Room:	Room C (104+105)
Session Chair(s):	Dong-Seon Lee (GIST, Korea) Jaekyun Kim (Hanyang Univ., Korea)

[FC3-1] [Invited] On-line (Pre-recorded) / On-demand

Laser-Driven Transfer Printing Techniques for Micro-LED Displays

Chengjun Wang, Hongyu Luo, and Jizhou Song (Zhejiang Univ., China)

[FC3-2] [Invited] On-line (Pre-recorded) / On-demand

GaN-Based Micro-LEDs for Technological Convergence between Displays and Optical Wireless Communications Systems

Martin Dawson, Johannes Herrnsdorf, Jonathan McKendry, Enyuan Xie, Erdan Gu, and Michael Strain (Univ. of Strathclyde, UK)

[FC3-3] [Invited] On-line (Pre-recorded) / On-demand

Direct Red-Emitting InGaN MicroLEDs based on Relaxed InGaN Templates

Lars Samuelson (Lund Univ., Sweden)

[FC3-4] [Invited] On-line (Pre-recorded) / On-demand

Directional GaN Micro-LED for VR/AR Applications

Xuelun Wang (AIST, Japan)

[FC3-5] [Invited] On-line (Pre-recorded) / On-demand

Emerging Field of Quasi-2D Flat Nanocrystal Optoelectronics

Hilmi Volkan Demir (Bilkent Univ., Turkey)

[FC3-6] [Invited] Off-line / 14:00-14:25

Fluidic Self-Assembly of Micro-LED Chips with Shaped Magnetic Heads and InGaP/InAlGaP Red LED with Plasmonic Nanohole Structures: Toward Micro LED Displays

In Hwan Lee (Korea Univ., Korea)

[FC3-7] Off-line / 14:25-14:40

Simultaneous Transfer and Bonding (SITRAB) Process for Mini- and Micro-LEDs

Kwang-Seong Choi, Jiho Joo, Gwang-Mun Choi, Ki-seok Jang, Chanmi Lee, Seok Hwan Moon, Ho-Gyeong Yun (ETRI, Korea), Ji-Hoon Choi, Ji-Woong Choi (AQLASER Co., Ltd., Korea), and Yong-Sung Eom (ETRI, Korea)

[FC3-8] Off-line / 14:40-14:55

Wave Energy Assisted Fluidic Self-Assembly of LED Chips for Display Application

Jejun Ryu, Seounghyun Noh, Changwan Park (Chung-Ang Univ., Korea), Seungje Lee, Youngrag Do (Kookmin Univ., Korea), and Jaesoo Yoo (Chung-Ang Univ., Korea)

[FC3-9] Off-line / 14:55-15:10

An Integrated Scan Driver Circuit based on LTPS TFTs for AM μLED Displays

Eun Kyo Jung, Yong-Hoo Hong, Sung-Hyuck Ahn, Sara Hong, Eunho Kim, Hwarim Im, and Yong-Sang Kim (Sungkyunkwan Univ., Korea)

[FC3-10] Off-line / 15:10-15:25

A Light-Induced Cu Conductor on Glass Substrates for Thin Film μLED Application

Jung Ho Shin, Seung Hyung Lee, Jae Hee Lee, Sang Hyun Park, Jungwon Oh, and Keon Jae Lee (KAIST, Korea)

[FC3-11] Off-line / 15:25-15:40

Surface Passivation of AlGaInP/GaInP Red Micro-LED

Juhyuk Park, Dae-Myeong Geum, Woo Jin Baek, and SangHyeon Kim (KAIST, Korea)

[FC3-12] On-line (Pre-recorded) / On-demand

Critical Challenges in MicroLED Testing and Inspection

David Lewis, Rimma Dechter (InZiv, Israel), Ryan Ley, Matthew Wong (Univ. of California, USA), and Michel Khoury (Applied Materials, USA)

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Session Title:	[FA4] Oral 31. OLED Device Physics
Session Date:	August 27 (Friday), 2021
Session Time:	16:00-17:10
Session Room:	Room A (101+102)
Session Chair(s):	Jeong-Hwan Lee (Inha Univ., Korea) Taekyung Kim (Hongik Univ., Korea)

[FA4-1] [Invited] Off-line / 16:00-16:25

The Role of Emitters and Host Molecules in Organic LEDs

Jeong-Hwan Lee (Inha Univ., Korea)

[FA4-2] Off-line / 16:25-16:40

Efficiency Enhancement of Top-Emitting Organic Light Emitting Diode by Multiple Capping Layer

Jin Young Kim, Han-Un Park, Seong Keun Kim, and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

[FA4-3] Off-line / 16:40-16:55

Accurate Optical Simulation Method for Tandem Organic Light-Emitting Diodes

Seong Keun Kim, Han-un Park, and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

[FA4-4] Off-line / 16:55-17:10

A Study on the Stability Improvement of Solution Processed Organic Light Emitting Diodes (OLEDs) Device through Control of Electron Mobility

Eun Young Park (Kyung Hee Univ., Korea), Jae-Ho Jang, Do-Hoon Hwang (Pusan Nat'l Univ., Korea), and Min Chul Suh (Kyung Hee Univ., Korea)

[FA4-5] [Invited] On-line (Pre-recorded) / On-demand

Predicting the Effects of Degradation on the Efficiency and Lifetime of OLEDs

Siebe van Mensfoort, Stefano Gottardi, Arthur Vauzelle, Christoph Hauenstein, Engin Torun, Ruud Gijsen (Simbeyond B.V., The Netherlands), Peter Bobbert, Reinder Coehoorn (Eindhoven Univ. of Tech., The Netherlands), and Harm van Eersel (Simbeyond B.V., The Netherlands)

[FA4-6] On-line (Pre-recorded) / On-demand

Advanced Characterization and Device Simulation towards Better Understanding of OLED Degradation Mechanisms

Markus Regnat (ZHAW, Switzerland), Sandra Jenatsch (Fluxim AG, Switzerland), Simon Züfle, Kurt P. Pernstich, and Beat Ruhstaller (ZHAW, Switzerland)

[FA4-7] [Invited] On-line (Pre-recorded) / On-demand

Controlling Spontaneous Orientational Polarization in OLEDs and Its Impact on Their Efficiency and Lifetime

Noel Giebink (Pennsylvania State Univ., USA)

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Session Title:	[FB4] Oral 32. Challenges for QD-Based Optoelectronic Devices
Session Date:	August 27 (Friday), 2021
Session Time:	16:00-17:20
Session Room:	Room B (103)
Session Chair(s):	Jiwan Kim (Kyonggi Univ., Korea) Nuri Oh (Hanyang Univ., Korea)

[FB4-1] [Featured Invited] On-line (Live Streaming) / 16:00-16:30

Designed Synthesis of Nanocrystal Quantum Dots for Efficient and Stable Emitters

Lin Song Li (Henan Univ., China)

[FB4-2] [Invited] Off-line / 16:30-16:55

Surface Engineering in Colloidal Quantum Dots for Infrared Optoelectronic Devices

Min-Jae Choi (Dongguk Univ., Korea)

[FB4-3] [Invited] Off-line / 16:55-17:20

Restructuring Surface of All Inorganic Cesium Lead Halide Perovskite Nanocrystal Quantum Dots for High Stability

Jusun Park (Sungkyunkwan Univ., Korea), Seongwoo Cho (KITECH, Korea), Youngsik Kim (Sungkyunkwan Univ., Korea), Sung Nam Lim, Shin Ae Song, Kiyoung Kim (KITECH, Korea), Sohee Jeong (Sungkyunkwan Univ., Korea), and Ju Young Woo (KITECH, Korea)

[FB4-5] [Invited] On-line (Pre-recorded) / On-demand

High-Resolution, High-Yield Patterning of Quantum Dots via Controlling Solvent-Surface Interactions

Tae Won Nam, Moohyun Kim, Kyeong Min Song, and Yeon Sik Jung (KAIST, Korea)

[FB4-6] On-line (Pre-recorded) / On-demand

Analysis on the Degradation of Cd-Free InP Based Quantum Dot Light-Emitting Diode

Kyunghwan Kim and Jeonghun Kwak (Seoul Nat'l Univ., Korea)

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Session Title:	[ON1] Oral 33. Unconventional OLEDs and Emerging Electronics
Session Room:	Online Only (On-demand)

[ON1-1] [Invited] On-line (Pre-recorded) / On-demand

Considerations in Advanced Inkjet Printed Layers for Current and Future Display Processes

Christopher R. Hauf, Valerie Gassend, and Noa Cohen (Kateeva, Inc., USA)

[ON1-2] On-line (Pre-recorded) / On-demand

Study on Dynamic Folding Reliability of Amorphous Metal Foil for Foldable Display Applications

TaeWoo Kim, JungKyu Park, SangJun Lee, SeungJun Han (LG Display Co., Ltd., Korea), Nadine Wolf, Thomas Strache, Julia Hahn, Christian Polak (VACUUMSCHMELZE, Germany), and JiGeun Nam (LG Display Co., Ltd., Korea)

[ON1-3] On-line (Pre-recorded) / On-demand

A Thin, High-Resolution Touch/Stylus Digitizer for Under-OLED Force-Sensing Applications

Sarah Dempsey and Tolis Voutsas (Peratech Holdco Ltd., UK)

[ON1-4] On-line (Pre-recorded) / On-demand

Design of Stable Blue Phosphorescent OLEDs Using State Interaction between Exciplex and Component Host

Joonghyuk Kim, Yeon Sook Chung, Soo-Ghang Ihn, Soon Ok Jeon, Jongsoo Kim, Yongsik Jung, Sungho Nam, Hosuk Kang, and Hyeonho Choi (Samsung Electronics, Korea)

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Session Title:	[ON2] Oral 34. Advanced Materials and Light Sources for Lighting and Display Applications (II)
Session Room:	Online Only (On-demand)

[ON2-1] [Invited] On-line (Pre-recorded) / On-demand

Integration of Colloidal Quantum Dots with Micro LEDs

Kai-Ling Liang, Wei-Hung Kuo, Hui-Tang Shen, Chun-I Wu, Yen-Hsiang Fang, and Chien-chung Lin (Industrial Tech. Research Inst., Taiwan)

[ON2-2] [Invited] On-line (Pre-recorded) / On-demand

Development of InGaN-Based Red LEDs and Fabrication of Their Micro-LEDs

Kazuhiro Ohkawa, Daisuke Iida, and Zhe Zhuang (King Abdullah Univ. of Science and Tech., Saudi Arabia)

[ON2-3] [Invited] On-line (Pre-recorded) / On-demand

Role of Intrinsic Surface States in Efficiency Attenuation of GaN-Based Micro LEDs

Zhaojun Liu (South Univ. of Sci. and Tech., China)

[ON2-4] [Invited] On-line (Pre-recorded) / On-demand

Efficient III-Nitride LEDs for Displays

J. J. Wierer, Jr., S. A. A. Muyeed, X. Wei, H. Xue, and R. Song (Lehigh Univ., USA)

[ON2-5] On-line (Pre-recorded) / On-demand

Environmentally Robust Narrow-Band Quantum Rods for Next Generation Solid-State Lighting

C. Kang, M.F. Prodanov, P. Chaudhari, V.V. Vashchenko, and A.K. Srivastava (HKUST, China)

[ON2-6] On-line (Pre-recorded) / On-demand

A Study on the Enhancement of Blue Index through Spectrum Modulation for Top-Emission Blue OLEDs

Liang Gao, Huiqing Pang, Xin Bi, Zheng Wang, Xiao Chen, Ray Kwong, and Sean Xia (Beijing Summer Sprout Technology Co., Ltd., China)

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Session Title:	[P2] Poster Presentation 2
Session Room:	Online Only (On-demand)

[P2-1]

Deep Input Normalization for Machine Sound Anomaly Detection with Convolutional Recurrent Neural Network

Hankyeol Lee, Jungwon Ryu, Euiyoel Oh, Changgone Kim, and Sooyoung Yoon (LG Display Co., Ltd., Korea)

[P2-2]

Pruning for an Image Restoration Network

Hyun-Joo Hwang, Jaebum Cho, Daewook Kim, Jewon Yoo, Sujin Choi, Hyunjin Son, Sang-Gu Lee, Hyunguk Cho, Seungin Baek, Won-Hyouk Jang, Yongjo Kim, and Eunkyung Koh (Samsung Display Co., Ltd., Korea)

[P2-3]

Development of 3D Crosstalk Classification Model Using Deep Learning

Young-Sang Ha, Je-Hong Ryu, Beom-Shik Kim, and Young-Chan Kim (Samsung Display Co., Ltd., Korea)

[P2-5]

Beyond Human Inspection: Focusing Networks for Review System

Eui-Young Jeong, Jong-Myong Choi, Hanaul Noh, and Pilho Kim (Samsung Display Co., Ltd., Korea)

[P2-6]

Efficiently Generate Train Data with Uncertainty of Prediction Values

Daewoo Myoung, Won-Hyouk Jang, Yoonjung Chai, Wonjun Lee, and Chol Ho Kim (Samsung Display Co., Ltd., Korea)

[P2-7]

A Study on the Simulation Automation and Design Improvement of PCB for Display

Jiwon Kim, Jungsoo Youn, Hyochul Lee, Insoo Wang, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-8]

Automatic Measurement with TEM/FIB Images by Convolution Neural Network

Seokkwon kim, Taesoek Jeong, Kyunghun Shin, Junghoon Jo, Seungin Baek, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-9]

Full IR-Drop Simulation with Display Adapted Solve Methods for High Resolution OLED Display Panel

Chol Ho Kim, Won Jun Lee, Hae Ryeong Park, Yongwoo Lee, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-10]

A Study on the Dimensional Accuracy of Super-Resolution SEM Images Upscaled by Deep Learning

Hyunjoo Hwang, Daewook Kim, Sujin Choi, Jewon Yoo, Eunkyung Koh, Hyunsang Seo, Hyunguk Cho, Seungin Baek, Yongjo Kim, and Jaebum Cho (Samsung Display Co., Ltd., Korea)

[P2-11]

A Study on the Evaluation Index of Glare Restoration Performance based on Deep Learning

Jewon Yoo, Sujin Choi, Hyunjoo Hwang, Daewook Kim, Hyunguk Cho, Seungin Baek, Yongjo Kim, and Jaebum Cho (Samsung Display Co., Ltd., Korea)

[P2-12]

Design Automation and Verification Platform of PCB for Display

Younyee Kang, Sungkwon Kim, Yongsang Cho, Jiwon Kim, Insoo Wang, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-13]

Fast Image Restoration for Under-Panel Camera

Daewook Kim, Sujin Choi, Jewon Yoo, Hyunjoo hwang, Hyunguk Cho, Seungin Baek, Yongjo Kim, and Jaebum Cho (Samsung Display Co., Ltd., Korea)

[P2-14]

Implementation of Template Based Web Simulation System

Jiyoo Park, Jihoon Shin, Eunji Kim, Junghoon Jo, Seungin Baek, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-15]

Pixel Layout Generation Algorithm for AMOLED Displays

Myunghun Lim, Jungsuk Bang, Min Kang, Yongwoo Lee, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-16]

Multi-Output CNN Model for RC Extraction

Keuk Jin Jeong, Myunghun Lim, Min Kang, Yongwoo Lee, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-17]

In-Fab Monitoring Method based on Artificially Intelligent Optical Property Prediction Technology

Youngjun Yoo, Jongbeom Hong, Eunkyung Koh, Changhun Lee, Younho Han, Gunshik Kim, Won-Hyouk Jang, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-18]

Target-Oriented Material Design based on a Key Parameter: New Blue Thermally Activated Delayed Fluorescent Emitters with Long Lifetime

Seran Kim, Dongsun Yoo, Hoilim Kim, Junha Park, Hyosup Shin, Hyunyoung Kim, Jiyoung Lee, Youngmi Cho, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-19]

Novel Verification Operation Design Methodology Using Timing Assertion for Display Produce

Minjoo Lee, Insoo Wang, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-20]

Automated Interconnection Method for Freeform Displays

Jeongcheol Noh, Jiyoung Lee, Deawoo Myoung, Hyunyoung Choi, Hearyeong Park, Yongwoo Lee, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

[P2-21]

Implentation of Convolution Neural Network in Display IC Maintaining Accuracy

Jun-Gyu Lee, Kuk-Hwan Ahn, Hyun-Jun Kim, and Hyeon-Min Kim (Samsung Display Co., Ltd., Korea)

[P2-22]

Novel Optical Simulation Method for flexible OLED with Optically Thick Incoherent Layers

Yong Sub Shim (Samsung Display, Republic of Korea), Younho Han (Samsung Display, Republic of Korea)

[P2-23]

Numerical Study on the Behavior of Conductive Particles in the Bonding Process

Daeyong Kim and Jinsung Hwang (Samsung Display Co., Ltd., Korea)

[P2-24]

SPICE TFT Modeling Using Reinforcement Learning

Wonwoo Choi, Sooyoung Lee, Younyeol Yu, Kiseok Chang, Ilho Kim, Seokwoo Lee, and Sooyoung Yoon (LG Display Co., Ltd., Korea)

[P2-25]

Fast and Rigorous Electromagnetic Simulation of Dipole Emission in a Periodically Corrugated Light-Emitting Diode Structure based on Diffraction Tracking

Chanhyung Park, Jeong Min Shin, Sanmun Kim, Juho Park, and Min Seok Jang (KAIST, Korea)

[P2-26]

Holistic Optimization of Periodically Corrugated Organic Light-Emitting Diodes for Extraordinary Front Emission

Jeongmin Shin, Chanhyung Park, Sanmun Kim, and Min Seok Jang (KAIST, Korea)

[P2-27]

Effect of Resistive Switching by inserting Thin Layer in Peptide Memristor

Hae Chan Choi, Jeong Hyun Yoon, Min-Kyu Song, and Jang-Yeon Kwon (Yonsei Univ., Korea)

[P2-28]

Multi-Resistive State IGZO-Based Memristor by Controlled Set Voltage Region

Jeong-Min Park, Young-Woong Song, and Jang-Yeon Kwon (Yonsei Univ., Korea)

[P2-29]

Image Classification : 3D Display Lens Alignment Inspection

Je-Hong Ryu, Young-Sang Ha, and Ki-Don Joo (Samsung Display Co., Ltd., Korea)

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Session Title:	[P3] Poster Presentation 3
Session Room:	Online Only (On-demand)

[P3-1]

Hinges in Foldable and Rollable Devices, Technical Review

Insun Hwang, Hyun Min Park (AUFLEX, Korea), and Yeoung Jin Chang (Gachon Univ., Korea)

[P3-2]

Fabrication of Stretchable and Transparent Nanonetwork Electrode Using Electrospinning and Sacrificial Layer

Kyungmin Kim and Jung-Yong Lee (KAIST, Korea)

[P3-3]

Electrically Controlled Bendable Actuator for Deformable Display

Jun Hyuk Shin (POSTECH, Korea), Ji Yoon Park (Kyung Hee Univ., Korea), Sang Hyun Han, and Su Seok Choi (POSTECH, Korea)

[P3-4]

Analytical Study of Multilayered Rollable OLED Display Structure Using Finite Element Method

Sang Hyun Han, Jun Hyuk Shin, and Su Seok Choi (POSTECH, Korea)

[P3-5]

Parametric Study of Serpentine Electrode Shape for Stretchable Display

Suan Lee, Jiyoon Lee, and Su Seok Choi (POSTECH, Korea)

[P3-6]

Optimization of Free-Form Electrode based on Inkjet Printing Method

Seyoung Choi, Soyul Kwak, Jihyeon Kang, Seohyeon Jang, Hojong Eom, Ohhyun Kwon, and Inho Nam (Chung-Ang Univ., Korea)

[P3-7]

Curable Hard Coating Additive for Anti-Scratch, Transparent, Hydrophobic Flexible Cover Window

Kang-Han Kim and Yong-Cheol Jeong (KITECH, Korea)

[P3-8]

On Demand Flammable Yet Stable OLED Device based on Paper for Security Device

Do-Gwan Kim and Yong-Cheol Jeong (KITECH, Korea)

[P3-9]

Hydrogel of Ion Side Chain Polymer for Ionic Conductor with Versatile Properties

Sungryong Kim, Jungsu Kim, Junwoo Lee, and Taiho Park (POSTECH, Korea)

[P3-10]

Transparent and Stretchable Interconnects with Ag-Nanomesh/ITO Double Layer Structure

Young Ho Kim (UST, Korea), Hyuk-Jun Kang, Dae-Geun Choi (KIMM, Korea), and Chan Woo Park (UST, Korea)

[P3-11]

Supramolecular Movable Cross-Linker in Pressure Sensitive Adhesives: Movable Cross-Linking Effects on Adhesion Properties

Mo-Beom Yi, Tae-Hyng Lee, and Hyun-Joong Kim (Seoul Nat'l Univ., Korea)

[P3-12]

A Fiber-Based White Organic Light-Emitting Diode for Truly Wearable Display Applications

Yong Ha Hwang and Kyung Cheol Choi (KAIST, Korea)

[P3-13]

Monolithic Integration of Stretchable and Transparent Indium-Tin-Oxide Interconnects with Oxide Thin-Film Transistors

Sohee Kim, Ilgeum Lee, Jae Bon Koo, Chan Woo Park, and Sooji Nam (ETRI, Korea)

[P3-14]

Encapsulated Stretchable OLEDs on LASER Patterned Polyimides

Taehyun Kim, Subon Kim, Donggyun Lee, and Seunghyup Yoo (KAIST, Korea)

[P3-15]

Highly Stretchable and Transparent Adhesive Films Using Hierarchically Structured Rigid-Flexible Dual-Stiffness Nanoparticles

Jongil An, Seung-Rak Son, Jin-Wook Choi, Soyern Kim, Jisung Park, Chan Beom Park (Soongsil Univ., Korea), Hoyun Byun (Samsung Display Co., Ltd., Korea), and Jun Hyup Lee (Soongsil Univ., Korea)

[P3-16]

Dynamic Stretchable OLED Display Having Individually Encapsulated Pixels

Gyujeong Lee, Sangwoo Kim, Jangyeol Yoon, Jeong-Tae Park, Jong-Ho Hong, and Sung-Chan Jo (Samsung Display Co., Ltd., Korea)

[P3-17]

Precise Subtractive Patterning Method of AgNWs on Deformable Platform

Geonhee Kim, Jinsu Yoon, and Yongtaek Hong (Seoul Nat'l Univ., Korea)

[P3-18]

Enhancement of Adhesion and Reflectance of Silver Thin-Film via Thiol Terminated Self-Assembled Monolayer for Reliable Stretchable Electronics

Sujin Jeong, Hyungsoo Yoon, Dahyun Kim, and Yongtaek Hong (Seoul Nat'l Univ., Korea)

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Session Title:	[P4] Poster Presentation 4
Session Room:	Online Only (On-demand)

[P4-1]

Study on Structure and Process Optimization of Color Modulation Hole-Only Quantum Dot Light Emitting Diode

Young-Min Park, Jae-In You, Suk-Ho Song, and Jang-Kun Song (Sungkyunkwan Univ., Korea)

[P4-2]

High Luminance Top-Emitting White Organic Light-Emitting Diodes for Microdisplay Applications

Seong Ji Lee, Jin-Wook Shin, Dae Hyun Ahn, Chul Woong Joo, Hyunsu Cho, Nam Sung Cho (ETRI, Korea), Jonghee Lee (Hanbat Nat'l Univ., Korea), Hyoc Min Youn, Young Jae An (Dongjin Semichem Co., Ltd., Korea), Hyunkoo Lee (Sookmyung Women's Univ., Korea), and Chan-Mo Kang (ETRI, Korea)

[P4-3]

Study of Vertical Thin-Film Transistor Applied pn-Heterojunction Channel Layer

Gyeonghyeon Choi, Goeun Pyo, and Jaeeun Jang (DGIST, Korea)

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Session Title:	[P5] Poster Presentation 5
Session Room:	Online Only (On-demand)

[P5-1]

Investigation of Hydrogen Diffusion Mechanism and Electrical Properties in In-Ga-Zn-O Thin Film through PECVD SiN:H and Post-Annealing

Hee Yeon Noh, Joonwoo Kim, June-Seo Kim, Myoung-Jae Lee, and Hyeon Jun Lee (DGIST, Korea)

[P5-2]

Influence of Post-Annealing Temperature on the Electrical Characteristics and Bias Stability of c-Axis Aligned Crystalline IGZO TFTs

Hyun-Woo Kim, Young-Jin Kang, Tae-Kyu Kim, and Yong-Hoon Kim (Sungkyunkwan Univ., Korea)

[P5-3]

Positive Bias Stress and Negative Bias Illumination Stress Stability of Amorphous InSnZnO (a-ITZO) Dual Layer Thin Film Transistor

Jeongho Lee, Seohyun Maeng, Hayoung Kim, Sohee Kim, and Jaekyun Kim (Hanyang Univ., Korea)

[P5-4]

High Performance Metal-Oxide TFTs Using ITZO/IGZO Double-Layer Channel Structure

Youngjin Kang, Boyeon Park, Jeehoon Kim, and Yong-Hoon Kim (Sungkyunkwan Univ., Korea)

[P5-5]

High Performance Thin-Film Transistor Using IGO by Low Temperature Crystallization

HyeongJin Park and Jaekyeong Jeong (Hanyang Univ., Korea)

[P5-6]

Rapid Fabrication of Amorphous IGZO TFTs by Using Solution Combustion Synthesis

Tae-gyu Kim, Jaeyoung Kim, Kyobin Keum, and Yong-Hoon Kim (Sungkyunkwan Univ., Korea)

[P5-7]

Key Roles of Trace Oxygen Treatment for High-Performance Zn-Doped CuI p-Channel Transistors

Ao Liu, Huihui Zhu, and Yong-Young Noh (POSTECH, Korea)

[P5-8]

Sodium Incorporation for Enhanced Performance of Two-Dimensional Tin-Based Perovskites Transistors

Ji-Young Go, Huihui Zhu, Youjin Reo, Ao Liu, and Yong-Young Noh (POSTECH, Korea)

[P5-9]

Metal-Oxide Thin-Film Transistors Operating at Low-Voltages for Display Backplanes

Sang-Joon Park, Jun-Young Jeon, and Tae-Jun Ha (Kwangwoon Univ., Korea)

[P5-10]

The Restorative Effect of Fluorocarbon Encapsulation on the Device Performance of Molybdenum Disulphide Thin-Film Transistors Operating at Low-Voltages for Active-Matrix Displays

Jun-Young Jeon, Byeong-Cheol Kang, Sang-Joon Park, and Tae-Jun Ha (Kwangwoon Univ., Korea)

[P5-11]

Abnormal Thermal Instability of Al-Doped InSnZnO Thin-Film Transistor with SiN_x/SiO_x Double Passivation Layer

Junghoon Yang and Sang-Hee Ko Park (KAIST, Korea)

[P5-12]

Effect of Ti Interlayer on the Contact Resistance of In-Ga-Sn-O Thin Film Transistors

Ho jae Lee, Min jae Kim, Jae seok Hur, Seong hun Yoon, Hee sung Han, and Jae kyeong Jeong (Hanyang Univ., Korea)

[P5-13]

Improved Field-Effect Mobility of In-Zn-Sn-O Thin Film Transistor by Oxidized Metal Layer

Gwang Bok Kim, Jeong A Lee, Min Hoe Cho, Sang Won Chung, Jae Hoon Cho, and Jae Kyeong Jeong (Hanyang Univ., Korea)

[P5-14]

High-Performance Solution-Processed WSe_2 Transistors

Taoyu Zou, Hyunjun Kim, and Yong-Young Noh (POSTECH, Korea)

[P5-15]

Current Modulation in Conducting Polymer Composites with Overcoating of a Dedoping Layer in Organic Field-Effect Transistors

Chaeseon Jeong, Donguk Kim, and Felix Sunjoo Kim (Chung-Ang Univ., Korea)

[P5-16]

High Performance Indium Gallium Oxide Transistors at a Low Temperature Using a Tantalum Catalytic Layer for Flexible Applications

Yoonji Choi, Seong Jip Kim (KETI, Korea), Gwangbok Kim, Jae Kyeong Jeong (Hanyang Univ., Korea), and Byungwook Yoo (KETI, Korea)

[P5-17]

Low-Temperature Processable Polyimide Gate Dielectrics for Flexible Pentacene Thin Film Transistors

Taek Ahn (Kyungsung Univ., Korea)

[P5-18]

Transfer Characteristics of InGaZnO Thin Film Transistors with Different Oxygen Partial Pressures

Jongyoon Lee and Byoungdeog Choi (Sungkyunkwan Univ., Korea)

[P5-19]

Mechanism of Low Frequency Noise and Trap Density Profile in Dual Gate Metal Oxide Thin Film Transistor

Kanghyun Kim (Samsung Display Co., Ltd., Korea), Min Jung Kim (Korea Univ., Korea), Younggil Park (Samsung Display Co., Ltd., Korea), Seung Hee Jin, and Jae Woo Lee (Korea Univ., Korea)

[P5-20]

The Effect of Silicon Incorporation on Threshold Voltage Shift of Solution-Processed Indium-Zinc Oxide Thin Film Transistor

Hyuntaek Woo and Byoungdeog Choi (Sungkyunkwan Univ., Korea)

[P5-21]

Performance Improvement in p-Channel Tin Monoxide Thin-Film Transistors via Bilayer Gate Dielectric Stack Using Hafnium Zirconium Oxide and Aluminum Oxide

Hochang Lee, Taikyu Kim, Hongwei Xu, Seungwan Seo, Cheol Hee Choi, and Jae Kyeong Jeong (Hanyang Univ., Korea)

[P5-22]

Perfluorocyclobutane Containing Crosslinked Polyimide Gate Dielectric for Thin Film Transistors

Jae Kyung Lee and Taek Ahn (Kyungsung Univ., Korea)

[P5-23]

Bay-Substitution Effect of Peryelene Diimides Nanowires on Supramolecular Chirality and Phototransistors

Jaeyong Ahn, Xiaobo Shang (Seoul Nat'l Univ., Korea), Jeong Hyeon Lee, Jin Chul Kim (UNIST, Korea), Hiroyoshi Ohtsu (Tokyo Inst. of Tech., Japan), Wanuk Choi (KIER, Korea), Inho Song (Seoul Nat'l Univ., Korea), Sang Kyu Kwak (UNIST, Korea), and Joon Hak Oh (Seoul Nat'l Univ., Korea)

[P5-24]

Low-Dimensional Semiconductor-Based Complementary Inverters with Tunable Switching Threshold

Seoyeon Jung, Jihyun Lee (Sookmyung Women's Univ., Korea), Sangyeon Pak, Jungmoon Lim, Seungnam Cha (Sungkyunkwan Univ., Korea), and Bongjun Kim (Sookmyung Women's Univ., Korea)

[P5-25]

Polycrystalline Indium Gallium Tin Oxide Thin-Film Transistors with High Mobility Exceeding 100 cm^2/Vs

Bokyoung Kim, Taewoong Moon, Sueon Lee, Do Hyun Kim, Yebyeol An, and Jae Kyeong Jeong (Hanyang Univ., Korea)

[P5-26]

Plasma Treatment of Amorphous IGZO with O_2 and Ar Reactive Gases

Jae Geun Woo, Chan Min Jeong, Eun Seong Yu, Hyuck Su Lee, Seo Jin Kang, and Byung Seong Bae (Hoseo Univ., Korea)

[P5-27]

Energy Band Offset Induced Threshold Voltage Shift of A-InGaZnO TFTs Under Bias Light Illumination

Hyojung Kim (Samsung Display Co., Ltd., Korea), Jangkun Song, and Byoungdeog Choi (Sungkyunkwan Univ., Korea)

[P5-28]

Polyimide-Doped Indium-Gallium-Zinc-Oxide Based Flexible Phototransistor for Visible Light Detection

Ki Seok Kim, Min Seong Kim, Jusung Chung, Dongwoo Kim, I Sak Lee, and Hyun Jae Kim (Yonsei Univ., Korea)

[P5-29]

Inorganic Sn-Rich Perovskite/Metal-Oxide Phototransistors Fabricated through Partial UV Irradiation for Optoelectronic Applications

Chanho Jo, Seojun Lee, Dong-Won Kang, and Sung Kyu Park (Chung-Ang Univ., Korea)

[P5-30]

Low-Voltage Operating Metal-Oxide Thin-Film Transistors with High-k Crystalline Metal-Oxide Dielectrics for Active-Matrix Displays

Sang-Joon Park, Jun-Young Jeon, and Tae-Jun Ha (Kwangwoon Univ., Korea)

[P5-31]

Effect of O_2 Flow Rate on the IGZO Thin Films Properties for Transistor Performance

Gi-Young Hong, Chur-Hyun Shin, Jong-Hoon Kim, Ho-Chang Yang, Il-Gu Kim, and Seung-Hyun Lee (KETI, Korea)

[P5-32]

Super Stable Self-Aligned Oxide TFT with High Mobility via Optimizing Oxygen Plasma Time during SiO_2 Deposition by PEALD

Seong-In Cho, Jong Beom Ko, and Sang-Hee Ko Park (KAIST, Korea)

[P5-33]

How To Boost the Ion Mobility in the Enhancement-Mode Organic Electrochemical Transistors

Seongmin Heo, Jimin Kwon, Insang You (POSTECH, Korea), Mingyu Jung (UNIST, Korea), Junghoon Lee (Dongseo Univ., Korea), Changduk Yang (UNIST, Korea), and Yong-Young Noh (POSTECH, Korea)

[P5-34]

Air-Stable Ambipolarity of Organic Semiconductors in Embedded Nanofibril Structure for Complementary-like Electronic Circuits

Byeong-Chan Park, Young-Jae Lee, and Kang-Jun Baeg (Pukyong Nat'l Univ., Korea)

[P5-35]

Low-Voltage Operation of Solid-State Electrolyte Gate Insulator CNT Transistors with High Transconductance

Haksoon Jung, Jimin Kwon, Seongmin Heo, and Yong-Young Noh (POSTECH, Korea)

[P5-36]

Effect of Thermally Induced Phase Transition on the Carrier-Transport of $CH_3NH_3PbI_3$ Thin Film Transistor

Farjana Haque and Mallory Mativenga (Kyung Hee Univ., Korea)

[P5-37]

Real-Time Healthcare Monitoring Platform with Solution Based High-Sensitivity Metal Oxide Electrochemical Transistors

Joon Hui Park and You Seung Rim (Sejong Univ., Korea)

[P5-38]

Carbon Chain Length and Annealing Temperature Dependency of Self-Assembled Monolayer-Doped IGZO Thin-Film Transistors

Juhyung Seo and Hocheon Yoo (Gachon Univ., Korea)

[P5-39]

Organic-Inorganic Hybrid Gate Dielectrics Synthesized Using Plasma Polymerization for Flexible Electronics

Gwan In Kim, Dong Hyun Choi, Min Seong Kim, Won Kyung Min, Jin Hyeok Lee, and Hyun Jae Kim (Yonsei Univ., Korea)

[P5-40]

Crystallization of SiN Capped InSb Films on Glass by Rapid Thermal Annealing

Otokichi Shimoda, Yuki Sawama, C. J. Koswaththage, Takashi Noguchi (Univ. of the Ryukyus, Japan), Takashi Kajiwara, Taizoh Sadoh (Kyushu Univ., Japan), and Tatsuya Okada (Univ. of the Ryukyus, Japan)

[P5-41]

Measuring Channel Potential in Solution-Processed, Dual-Gate Amorphous InGaZnO Thin-Film Transistors Using Gated Multiprobe Method

Soyoung Choi and Jaewook Jeong (Chungbuk Nat'l Univ., Korea)

[P5-42]

Extension of a 10 mm long {100}-Oriented Grain Boundary Free Silicon Domain Crystallized by Continuous Wave Green Laser

Muhammad Arif, Nobuo Sasaki, Satoshi Takayama, and Yukiharu Uraoka (Nara Inst. of Science and Tech., Japan)

[P5-43]

Optimization of the OLED Charging Delay for Improving Low Gray Scale Picture Quality in the AMOLED Displays

Se-Hwan Na, Won-Kyung Min (Yonsei Univ., Korea), Do-Hyung Kim, Han-Wook Hwang, Hyun-Chul Choi (LG Display Co., Ltd., Korea), and Hyun-Jae Kim (Yonsei Univ., Korea)

[P5-44]

Solution-Processed Calcium Titanate Perovskite Film and Its Thickness-Dependent Hysteresis Behaviors

Subin Lee and Hocheon Yoo (Gachon Univ., Korea)

[P5-45]

Negative Differential Resistance Performance in 0D/3D Mixed Dimensional Heterostructure Using ZnO Quantum Dots

Somi Kim, Taehyun Park, and Hocheon Yoo (Gachon Univ., Korea)

[P5-46]

Investigation of Performance Improvement through Boron Implantation in the Source/Drain Area of Self-Aligned Coplanar a-IGZO TFTs

Seung Hee Kang, I Sak Lee, Kyungmoon Kwak (Yonsei Univ., Korea), Nack Bong Choi, Han Wook Hwang, Hyun Chul Choi (LG Display Co., Ltd., Korea), and Hyun Jae Kim (Yonsei Univ., Korea)

[P5-47]

Effect of N_2O Plasma treatment on the IGZO TFTs and its Vth distribution

Namsik Kim, Jee Ho Park, Jonghun Lim, Hyeongjung Kim Sangbin Suh, and Jintae Kim (LG Display Co., Ltd., Korea)

[P5-48]

Improve Electrical Properties of IGZO TFTs by Adopting Zn, Ga Rich Layer

HyungTae Kim, Jeeho Park, JeongWoong Baek, SungHan Lim, YongJo Kim, and Jintae Kim (LG Display Co., Ltd., Korea)

[P5-49]

Effect of Multi-Layer Thickness on the Reliability of the IGZO TFTs

Sangbin Suh, Jeeho Park, Jonghoon Lim, Hyeongjung Kim, Namsik Kim, and Jintae Kim (LG Display Co., Ltd., Korea)

[P5-50]

Effect of Passivation Oxygen Contents on the Performance of IGZO TFTs

Eunji Jang, Jeeho Park, Wonil Han, Yeonhoo Jung, and Jintae Kim (LG Display Co., Ltd., Korea)

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[P6-1]

One-Way Observable Edge-Lit Window Signage Display Using Dye-Doped Thin Resin Layer Which Enables to Make Images Invisible from Back Side

Kunio Sakamoto and Yusuke Fujie (Konan Univ., Japan)

[P6-2]

Unidirectional Projection Screen for Window Signage Which Enables to Make Images Invisible from Back Side Using Polarized Light Control Technology

Kunio Sakamoto and Hikaru Tanouchi (Konan Univ., Japan)

[P6-3]

Optimally Modulated Luminance for Suppressing Flicker in Displays

Eunjung Lee, Hyungsuk Hwang, Jaejoong Kwon, and Sungchan Jo (Samsung Display Co., Ltd., Korea)

[P6-4]

Attitude toward Use(ATU) of New Screen Form Factor Consitering Contents

Daeun Park and YungKyung Park (Ewha Womans Univ., Korea)

[P6-5]

Color Gamut Volume Inconsistency Over Chromatic Adaptation Transforms

Youn Jin Kim, Kyung Jin Kang, and Myoung Young Lee (LG Electronics Inc., Korea)

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[P7-1]

Donut-Shaped Fourier Peplography

Jiheon Lee (Hankyoung Univ., Korea), Jaehoon Lee, Hyun-Woo Kim, Min-Chul Lee (Kyushu Inst. of Tech., Japan), and Myungjin Cho (Hankyoung Univ., Korea)

[P7-2]

Enhanced Depth Estimation Using Histogram Matching

Jiheon Lee (Hankyoung Univ., Korea), Jaehoon Lee, Hyun-Woo Kim, Min-Chul Lee (Kyushu Inst. of Tech., Japan), and Myungjin Cho (Hankyoung Univ., Korea)

[P7-3]

Computational Photon Counting Visual Quality Enhancement by Using Wavelet Denoising

Jaehoon Lee, Kazuaki Honda (Kyushu Inst. of Tech., Japan), Jiheon Lee, Myungjin Cho (Hankyong Nat'l Univ., Korea), and Min-Chul Lee (Kyushu Inst. of Tech., Japan)

[P7-4]

Car A-Pillar Blind Spot Visualization and Object Recognition System Using Car Dash Cam

Jaehoon Lee, Hyun-Woo Kim (Kyushu Inst. of Tech., Japan), Jiheon Lee, Myungjin Cho (Hankyong Nat'l Univ., Korea), and Min-Chul Lee (Kyushu Inst. of Tech., Japan)

[P7-5]

Accurate Depth Map Reconstruction Method by Using Optimum Distance Calculation

Kazuaki Honda, Jaehoon Lee, Hyun-Woo Kim (Kyushu Inst. of Tech., Japan), Jiheon Lee, Myungjin Cho (Hankyong Nat'l Univ., Korea), and Min-Chul Lee (Kyushu Inst. of Tech., Japan)

[P7-6]

Research on Noise Reduction Techniques for the 3D Visualization Under the Scattered Media Conditions

Ryo Shinohara, Hyun-Woo Kim, Jaehoon Lee (Kyushu Inst. of Tech., Japan), Jiheon Lee, Myungjin Cho (Hankyong Nat'l Univ., Korea), and Min-Chul Lee (Kyushu Inst. of Tech., Japan)

[P7-7]

A Study on Statistical Analysis Using Segmentation and Numbering in Digital Holographic Microscopy (DHM) Technology

Hyun-Woo Kim, Jaehoon Lee (Kyushu Inst. of Tech., Japan), Jiheon Lee, Myungjin Cho (Hankyong Nat'l Univ., Korea), and Min-Chul Lee (Kyushu Inst. of Tech., Japan)

[P7-8]

A Study of Digital Holographic Microscopy (DHM) Using a Gaussian Weighted Sideband in the Fourier Domain

Hyun-Woo Kim (Kyushu Inst. of Tech., Japan), Jiheon Lee, Myungjin Cho (Hankyong Nat'l Univ., Korea), Naoki Konishi, and Min-Chul Lee (Kyushu Inst. of Tech., Japan)

[P7-9]

VR Synchronization Using Muscle Activity Strain Textile Sensors

SangUn Kim, SeongMo Gu, EunJi Yeun, and JooYong Kim (Soongsil Univ., Korea)

[P7-10]

One-Way Observable Light-Emitting Aero Signage Display Using Light Transmission Tube Which Enables to Make Transparent View from Back Side

Kunio Sakamoto and Suguru Monzen (Konan Univ., Japan)

[P7-11]

SMA's Power Efficiency Improvement Plan Using Silver Paste Layer In Lighter Tactile Realization VR Device

Sang Jin Kim, Sang Un Kim, and JooYong Kim (Soongsil Univ., Korea)

[P7-12]

Real-Time 3D Rendering and Eye-Tracking for High Resolution Light Field 3D Display

Rang Kyun Mok, Hyun Jin Cho, Su Bin Jung, and Beom Shik Kim (Samsung Display Co., Ltd., Korea)

[P7-13]

A Study on 3D Pixel for High-Definition 3D Display

Young-Sang Ha, Beom-Shik Kim, Jae-Joong Kwon, and Young-Chan Kim (Samsung Display Co., Ltd., Korea)

[P7-14]

Development of Rewritable Hologram with High Efficiency Azobenzene Polymer Optimized for Green-Laser

Kyung-Il Joo (KOPTI, Korea), Hye Ju Kang (KRICT, Korea), Seon Kyu Yoon, Kwang-Hoon Lee (KOPTI, Korea), Jae-Won Ka (KRICT, Korea), and Hak-Rin Kim (Kyungpook Nat'l Univ., Korea)

[P7-15]

Impact of Partial Masking Black Matrix on Lenticular Lens Array Film for High Quality Multiview 3D Display Image

Jeong Woo Park, Hyun Jin Cho, Beom-Shik Kim, Su-bin Jeong, Young-chan Kim, and Seong-Chan Cho (Samsung Display Co., Ltd., Korea)

[P7-16]

Distortion Correction in Tomographic Near-Eye Displays with Light Field Optimization

Siwoo Lee, Seungjae Lee, Dongyeon Kim, and Byoungho Lee (Seoul Nat'l Univ., Korea)

[P7-17]

Analysis on Underestimation of Eye-Box Measurements in Near-to-Eye Displays with Considering Rotation Center of Eye

Sehwan Lim, Kwang-Soon Choi, and Jiwoon Yeom (KETI, Korea)

[P7-18]

Hologram Synthesis Method based on Ray-Tracing Rendering for Holographic Stereogram Printing

Erkhembaatar Dashdavaa, Chang-Won Shin, Hui-Ying Wu (Chungbuk Nat'l Univ., Korea), Seong Gyoon Park (Kongju Nat'l Univ., Korea), Jung-jae Ko (Chungbuk Nat'l Univ., Korea), and Nam Kim (Chungbuk Nat'l Univ., Korea)

[P7-19]

Design Method of Freeform Holographic Mirror for Near-Eye Display

Songhyun Lee, Chanhyung Yoo, Kiseung Bang, and Byoungho Lee (Seoul Nat'l Univ., Korea)

[P7-20]

Deep Learning and Hologram Compression

Juhyun Lee and Byoungho Lee (Seoul Nat'l Univ., Korea)

[P7-21]

Occlusion-Capable Augmented Reality Display with Reduced Size and Expanded Field of View

Minseok Chae, Kiseung Bang, Youngjin Jo, Dongheon Yoo, and Byoungho Lee (Seoul Nat'l Univ., Korea)

[P7-22]

Horizontal Field of View Enhancement of a Waveguide-Type Near-Eye-Display by Re-structuring Input Image

Woongseob Han, Jae-Min Jeon, Myeong-Ho Choi, and Jae-Hyeung Park (Inha Univ., Korea)

[P7-23]

Analysis of Multiplexed Holographic Optical Element with Rigorous Coupled Wave Theory

Junyoung Jang and Jae-Hyeung Park (Inha Univ., Korea)

[P7-24]

Depth Perception Improvement of Distant 3D Image from Sticking Depth on Real Object by Moving Head or 3D Image in Arc 3D Display

Takeshi Yasui, Kisa Nakano, Haruki Mizushina, Kenji Yamamoto, and Shiro Suyama (Tokushima Univ., Japan)

[P7-25]

Advanced Secure Display Using DFD Display with Fuzzy Perceived Depth Images by Combining Random Dot Configuration and Fuzzy Luminance Distribution

Kazuya Fujikawa, Haruki Mizushina, Kenji Yamamoto, and Shiro Suyama (Tokushima Univ., Japan)

[P7-26]

Reduction of Perceived Depth Instability in Aerial Image by Reaching Hand for Aerial Image Position

Naoki Kiyose, Haruki Mizushina, Kenji Yamamoto, and Shiro Suyama (Tokushima Univ., Japan)

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[P8-1]

Deep Learning to Improve the Performance of Fingerprint Sensor Under Display

Soongyu Lee and Jinwoo Kim (Samsung Display Co., Ltd., Korea)

[P8-2]

Tearing Effect Free Single Buffering for a Field Sequential Color Display

Wook Hong, Hokwon Kim, and Joon Goo Lee (RAONTECH, Korea)

[P8-3]

Evaluation of Adverse Health Effects from OLED Display Flicker of Smartphone

Minhyuk Kim, Young-mook Choi, and Sangkok Kim (Samsung Display Co., Ltd., Korea)

[P8-4]

AMOLED Pixel Circuit for VDD Compensation

Hyuck Su Lee, Seo Jin Kang, Eun Seong Yu, Jae Geun Woo, Jong Mo Lee, Chan Min Jung, and Byung Seong Bae (Hoseo Univ., Korea)

[P8-5]

Stretching Compensation Pixel Circuit Using a-IGZO TFTs

Seo Jin Kang, Hyuck Su Lee, Eun Seong Yu, Jae Geun Woo, Chan Min Jeong, Jong Mo Lee, and Byung Seong Bae (Hoseo Univ., Korea)

[P8-6]

An Quatification Method of Hotizontal Line Defects Caused by the Interference between Flexible OLED and Touch Sensor

Junyoung Ko, Hyung-Bae Kim, Jaewoo choi, Eunsol Seo, and Yujin Shin (Samsung Display Co., Ltd., Korea)

[P8-7]

An a-IGZO TFTs Based Scan Driver Circuit for Depletion Mode with Triple Pull-Down Units

Yong-Hoo Hong, Eun Kyo Jung, Sung-Hyuck Ahn, and Yong-Sang Kim (Sungkyunkwan Univ., Korea)

[P8-8]

Scan Driver Circuit for Leakage Current Suppression in Enhancement-Mode and Depletion-Mode

Sung-Hyuck Ahn, Eun Kyo Jung, Yong-Hoo Hong, Hwarim Im, and Yong-Sang Kim (Sungkyunkwan Univ., Korea)

[P8-9]

The Low Power Architecture for Display Driver IC

Seokhwan Roh and Geunyoung Jeong (Samsung Display Co., Ltd., Korea)

[P8-10]

High Dynamic Range Gamma Correction in Organic Light Emitting Diode Displays

Kevin Kam, Wei Fan, and Ioannis Kymissis (Columbia Univ., USA)

[P8-11]

Color Shifting in High Dynamic Range Organic Light Emitting Diode Displays

Kevin Kam, Wei Fan, Vikrant Kumar, and Ioannis Kymissis (Columbia Univ., USA)

[P8-12]

Low-Voltage Driving Shift Register based on Coplanar a-InGaZnO TFTs Using Photo-Patternable Ionic Elastomer

Changhyeon Cho, Yongchan Kim, Eseudeo Yun (Soongsil Univ., Korea), Hanbin Choi, Do Hwan Kim (Hanyang Univ., Korea), and Hojin Lee (Soongsil Univ., Korea)

[P8-13]

Low-Power Capacitive Pressure Sensor Circuit based on Coplanar a-IGZO TFTs Using Photo-Patternable Ionic Polymer Gate Dielectric

Heejoo Park, Yongchan Kim, Changhyeon Cho, Jinho Moon, and Hojin Lee (Soongsil Univ., Korea)

[P8-14]

Pseudo Face-Orientation Change for 2D Communications by Spatial Blending of 2D Face Images with Different Face Orientations

Yurie Nakagawa, Haruki Mizushina, Kenji Yamamoto, and Shiro Suyama (Tokushima Univ., Japan)

[P8-15]

Image Quality Enhancement in Variable-Refresh-Rate AMOLED Displays Using an Initial Voltage Compensation Method

Li Jin Kim, Sujin Jung, Hee Jun Kim (Yonsei Univ., Korea), Chang Hoon Jeon, Kyung Joon Kwon (LG Display Co., Ltd., Korea), and Hyun Jae Kim (Yonsei Univ., Korea)

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[P9-1]

A New Evaluation System for Metal Oxide Compound Semiconductor Film

Kook Chul Moon (KonKuk Univ., Korea), JungUn Na, Hyoungsik Kim, GyoHyuk Yoon, JongPill Choi (Engion Co., Ltd., Korea), Wonyoung Kim, and Yong-Sang Kim (Sungkyunkwan Univ., Korea)

[P9-2]

Direct Photolithography of Quantum Dot Films by Diethylzinc Treatment for High-Resolution Emissive Display Applications

Joon Yup Lee, Gi-Hwan Kim (Myongji Univ., Korea), Jisu Han, Jaehoon Lim (Sungkyunkwan Univ., Korea), and Seong-Yong Cho (Myongji Univ., Korea)

[P9-3]

One-Way Observable Aero Signage Display Using Micro Optical Prism by Intaglio Printing Which Enables to Make Transparent View from Back Side

Kunio Sakamoto and Ryo Sakata (Konan Univ., Japan)

[P9-4]

High Performance, Ultra-Flexible Metal Oxide Thin-Film-Transistor(TFT) Enabled by Polyimide Film for Wearable Application

Jeonghyoung Lee, Jiyun Tak, Soobin Lee, and Jaekyun Kim (Hanyang Univ., Korea)

[P9-5]

Development of Bilayer Inorganic Thin Film to Prevent Oxidation of Metal Layer

W.Y. Kim, H.Y. Lee, H.J. Kang, O.J. Kwon, S.J. Kim, D.J. Suh, and S.H. Kim (Samsung Display Co., Ltd., Korea)

[P9-6]

Solution-Processed Aluminum-Titanium Oxide as Gate Insulator for a-IGZO Thin Film Transistors

Sung-Won Kim, Won-Young Kim, Hwarim Im, and Yong-Sang Kim (Sungkyunkwan Univ., Korea)

[P9-7]

Eco-Friendly All Water-Based Solution Process for Robust Ag Nano-Mesh Transparent Electrodes

Sung Min Lee, In Hyeok Oh, Yeon Woo Kim, and Suk Tai Chang (Chung-Ang Univ., Korea)

[P9-8]

Study on the Solution Processed Organic Light Emitting Diode Using a Polyetherimide Adhesion Layer

Tae-Jin Lee, Jun-Yeong Lee, and Cheol-Hee Moon (Hoseo Univ., Korea)

[P9-9]

Crystalline Boundary Reduction of 6,13-Bis(triisopropylsilylethynyl)pentacene Thin Films on a Surface-Hydrophobicity-Modified Polymeric Insulator

Jin-Hyuk Kwon, Min-Hoi Kim (Hanbat Nat'l Univ., Korea), Jin-Hyuk Bae (Kyungpook Nat'l Univ., Korea), and Jaehoon Park (Hallym Univ., Korea)

[P9-10]

Research on Luminance Inspection of Mini-LED Using Light Control Film

Byeong-Chan Choi, Byung-Chul Lee, and Kwan-Young Han (Dankook Univ., Korea)

[P9-11]

OCR Spreading Characteristics on the Curved Substrate for Lamination of the Flexible Display

Young-Gyun Kim and Kwan-Young Han (Dankook Univ., Korea)

[P9-12]

Fabrication of Organic Light Emitting Diode Micropixels using Plasma Etching without Photolithography

Hyungki Park, Chanho Kim, Sangmin Lee, Hangil Lee, Jiho Jeon, and Sung Min Cho (Sungkyunkwan Univ., Korea)

[P9-14]

Effects of Al Capping Layer Thickness on Electrical Performance and Stability of IGTO TFTs

Seong-Hyun Hwang, Hyun-Seok Cha, Hwan-Seok Jeong, Dong-Ho Lee, and Hyuck-In Kwon (Chung-Ang Univ., Korea)

[P9-15]

Fabrication of Auxiliary Electrodes Using Layer-by-Layer Inkjet Printing Process for OLED Lighting

Sung-min Sim, Jun Ho You, and Sang-Ho Lee (KITECH, Korea)

[P9-16]

Stabilization Effect of S or Se Incorporation with Indium Oxide

Paul Lee and Myung-gil Kim (Sungkyunkwan Univ., Korea)

[P9-17]

a-IGZO TFTs with CYTOP Gate Dielectric

Won-Young Kim, Sung-Won Kim, Hwarim Im, and Yong-Sang Kim (Sungkyunkwan Univ., Korea)

[P9-18]

Flexible Inorganic-Organic Nanolaminate Encapsulation for Next Generation Display

Heeyong Lee, Myung Soo Huh, Jung Eun, Jung Gon Kim, Dong Pyo Jeon, and Choel Min Jang (Samsung Display Co., Ltd., Korea)

[P9-19]

Area Selective Atomic Layer Deposition of Al_2O_3 Using Self-Assembled Monolayers

Wung Sun Eo, Hye Jin Cho, Chan Ho Kim, Se Jin Ahn, Seung Woo Lee, and Sung Min Cho (Sungkyunkwan Univ., Korea)

[P9-20]

Characterization and of UV LED Cured Acrylic Pressure-Sensitive Adhesives for Flexible Displays.

Ji-soo Kim (Seoul Nat'l Univ., Korea), Youngdo Kim (Samsung Display Co., Ltd., Korea), and Hyun-Joong Kim (Seoul Nat'l Univ., Korea),

[P9-21]

Organic-Inorganic Hybrid Transparent Conductive Electrode for Flexible Electronics

Minh Nhut Le (SungKyunKwan Univ., Korea), Byung-Doo Choi (Chung Ang Univ., Korea), and Myung-Gil Kim (SungKyunKwan Univ., Korea)

[P9-22]

Transparent Flexible Nanoline Field-Effect Transistor (NL-FET) Array with High-Integration in Large-Area

Dong Wook Kim and Unyong Jeong (POSTECH, Korea)

[P9-23]

The Effect of Pump Configuration in an Ink Circulation System on Jetting Quality in Inkjet Printer

Wooree Ko, Giwoon Sung, Futoshi Yoshida, Euna Ko, and Younggeun Cho (Samsung Display Co., Ltd., Korea)

[P9-24]

Laser Micro Patterning of Carbon Complex Materials for Lightweight and Robust Display

Junghwa You, Hyungsik Kim, Jeongho Kim, Joongsung Lee, Kyunghan Yoo, Alexander Voronov, Emil Aslanov, Jekil Ryu, SeongHo Jeong, and Cheol Lae Roh (Samsung Display Co., Ltd., Korea)

[P9-25]

Jetting Reliability Improvement for Pixel Printing of QD Display

Katsuyuki Hirato, Wooree Ko, and JaiHyuk Choi (Samsung Display Co., Ltd., Korea)

[P9-26]

Fine Organic Stripe Coating Using a Hydrophobic Needle for OLEDs

Jinyoung Lee, Gieun Kim, Songeun Hong, Jiho Choi, and Jongwoon Park (Korea Univ., Korea)

[P9-27]

Mechanism Study of Wide Color-Gamut TFT-LCD's Light-Caused Mura

Dong Wang, Dan Wang, Hongming Zhan, Xi Chen, and Xibin Shao (Beijing BOE Display Tech. Co., Ltd., China)

[P9-28]

A Study on Improvement and Diagnosis Method of Manufacturing in EtherCAT Communication

Tae Min Kim and Jae Wook Jeon (Sungkyunkwan Univ., Korea)

[P9-29]

Relation of the Intense Pulsed Light Energy to Characteristic of the Fabricated OLEDs Device by Sublimation Transfer Process

Jun Yeub Lee (KITECH, Korea), Byung Kwon Ju (Korea Univ., Korea), and Kwan Hyun Cho (KITECH, Korea)

[P9-30]

Particle Removal Prediction on Thin-Film Transistor through Mist-Based Cleaning Simulation

Yujin Seong, Hyojoon Gong, Changrok Choi, Ilho Kim, Seokwoo Lee, and Sooyoung Yoon (LG Display Co., Ltd., Korea)

[P9-31]

Effect of Ar Atmospheric Plasma Treatment Time on Al-Doped Zinc Oxide Thin Films Sputtered on Flexible Substrates

Haechang Lee, Younggon Choi, Kirak Kim, Yuanrui Qi, Minseok Song, Van Tuan Nguyen, DongWoon Lee, Sang Jik Kwon, and Eou-Sik Cho (Gachon Univ., Korea)

[P9-32]

Effect of Thermal Induced Degradation on the 8-Hydroxyquinolato-Lithium (Liq) Organic Material by Evaporation Process

Mi-Young Ha (Soonchunhyang Univ., Korea), Byeong-Doo Kang (SFA Engineering, Korea), Ye-Bin Eun, and Dae-Gyu Moon (Soonchunhyang Univ., Korea)

[P9-33]

Reinforcement Learning for One-Armed Transfer Robots in Display Manufacturing

Hwa-Jong Lee, Sihyeon Jo, and Seong-Woo Kim (Seoul Nat'l Univ., Korea)

[P9-34]

Mechanism Study of Wide Color-Gamut TFT-LCD's Light-Caused Mura

Dong Wang, Dan Wang, Hongming Zhan, Xi Chen, and Xibin Shao (Beijing BOE Display Tech. Co., Ltd., China)

Session Title:	[P10] Poster Presentation 10
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[P10-1]

Synthesis of Organolead Halide Perovskite Nanoparticles Without Quantum Confinement Effects and Their Applications to LEDs

Bong-Jun Choi and Jung-Yong Lee (KAIST, Korea)

[P10-2]

Effect of Single Structure on the Performance of Light-Emitting Electrochemical Cells

Woo Jin Jeong (Gyeongsang Nat'l Univ., Korea), Jong Ik Lee (Sogang Univ., Korea), Hee Jung Kwak, Jae Min Jeon (Gyeongsang Nat'l Univ., Korea), Moon Sung Kang (Sogang Univ., Korea), and Jun Young Kim (Gyeongsang Nat'l Univ., Korea)

[P10-3]

Electroluminescence of Inverted Perovskite Quantum Dot Light Emitting Diode based on $CsPbBr_3$

Hee Jung Kwak, Min-Sik Gong, Woo Jin Jeong, Jeong Ha Hwang, Donggu Lee, Gi-Hwan Kim, and Jun Young Kim (Gyeongsang Nat'l Univ., Korea)

[P10-4]

Unidirectional Window Signage Display Using Resin Printing Ink for Making Dye-Doped Thin Layer Which Enables to Make Images Invisible from Back Side

Kunio Sakamoto and Takeru Hasegawa (Konan Univ., Japan)

[P10-5]

Highly Efficient Double Gate Light Emitting Transistor based on Van der Waals Hetero Structure

June-Chul Shin (Seoul Nat'l Univ., Korea), Junyoung Kwon (Yonsei Univ., Korea), Yeon Ho Kim, Chul-Ho Lee (Korea Univ., Korea), and Gwan-Hyoung Lee (Seoul Nat'l Univ., Korea)

[P10-6]

Elucidating Chemical Origin of Photoluminescence of Cesium-Bismuth-Bromide Perovskite Nanocrystals and Improved Emissive Properties via Metal Chloride Additives

Joonyun Kim, Jinu Park, and Byungha Shin (KAIST, Korea)

[P10-7]

Highly Conductive Ionic Gel Polymer Electrolyte based on In-Planar Microsupercapacitors for Display Applications

Gaeun Park, Dawoon Lee, and Jaekyun Kim (Hanyang Univ., Korea)

[P10-8]

High Performance Micro-Supercapacitor Array Using Hybrid Ion-Gel Polymer Electrolyte (IGPE) as Next-Generation Energy Storage Device for Display Applications

Dawoon Lee (Hanyang Univ., Korea), U Hyeok Choi (Inha Univ., Korea), and Jaekyun Kim (Hanyang Univ., Korea)

[P10-9]

Highly Deformable Transparent Au Film Electrodes and Their Uses in Deformable Displays

Dong Wook Kim, Chae-Eun Shim, and Unyong Jeong (POSTECH, Korea)

[P10-10]

High Performance Piezoelectric Nanoparticle-Embedded Micro-Structure Triboelectric Nanogenerator(TENG) for Wearable and Human-Interactive Applications

Junsu Seong, Dakyung Yu, Minwoo Kim, and Jaekyun Kim (Hanyang Univ., Korea)

[P10-11]

Large-Scale Ultrathin IGZO/MoS_2 Heterostructure Device for Highly Sensitive Visible Photodetectors

Kumin Kang (Hanyang Univ., Korea), Sunkyung Kang (Chungbuk Nat'l Univ., Korea), Dongyun Lee (Hanyang Univ., Korea), Hyunseok Lee (Chungbuk Nat'l Univ., Korea), and Jaekyun Kim (Hanyang Univ., Korea)

[P10-12]

Highly Controllable Segregation in the Mixed-Halide Peovskite with Electrical in-situ Observations

SeungJae Lee and JungYong Lee (KAIST, Korea)

[P10-13]

The Design of Circular Polarization Dependent Dual Focusing Metalens

Yeseul Kim and Junsuk Rho (POSTECH, Korea)

[P10-14]

Enhancement of Luminous Intensity from LED Source at Detection Angle of 10° by Using Metalens

Hanlyun Cho, Heonyeong Jeong, and Junsuk Rho (POSTECH, Korea)

[P10-15]

Fabrication and Electrochromic Performance of Textile Electrochromic Devices

Yu Seon Eom, Raksha Pal, and Jong Seung Park (Pusan Nat'l Univ., Korea)

[P10-16]

Tunable Structural Color for Encryption Enhancement

Byoungsu Ko, Trevon Badloe, Younghwan Yang, and Junsuk Rho (POSTECH, Korea)

[P10-17]

One-Step Fabrication of High Efficiency Hologram Using Particle Embedded Resin

Joohoon Kim, Dong-Kyo Oh, and Junsuk Rho (POSTECH, Korea)

[P10-18]

Near-Infrared Detectors Using Semiconducting Carbon Nanotubes with Narrow Band-Gap

Dongseob Ji, Haksoon Jung, and Yong-Young Noh (POSTECH, Korea)

[P10-19]

Stretchable Strain Sensor for Wearable Device by UV Curing Patterning Method

Yongjun Song, Dawoon Lee, and Jaekyun Kim (Hanyang Univ., Korea)

[P10-20]

Enhancement of Blue-Light Emitter $CsPbBr_3$ Nanoplatelets through Post-Treatment Surface Passivation

Jinu Park, Joonyun Kim, and Byungha Shin (KAIST, Korea)

[P10-21]

Full-Colored Polarization Colorfilter by Near-Zero Reflection with Triple-Nanofin Metasurfaces

Chunghwan Jung and Junsuk Rho (POSTECH, Korea)

[P10-22]

Highly Flexible, Large-Area MoS_2/Ion-Gel Composite Film for Photodetection

Soobin Lee, Seohyun Maeng, Dawoon Lee (Hanyang Univ., Korea), Hyunseok Lee (Chungbuk Nat'l Univ., Korea), and Jaekyun Kim (Hanyang Univ., Korea)

[P10-23]

Enhanced Photoluminescence of Two-Dimensional Van der Waals Heterostructures Fabricated by Layer-by-Layer Oxidation of MoS_2

Sojung Kang (Yonsei Univ., Korea), Yoon Seok Kim (KU-KIST Graduate School of Converging Science and Technology, Korea), Jae Hwan Jeong, Junyoung Kwon, Jong Hun Kim (Yonsei Univ., Korea), Yeonjoon Jung (Seoul Nat'l Univ., Korea), Jong Chan Kim (UNIST, Korea), Bumho Kim (Columbia Univ., USA), Sang Hyun Bae, Pinshane Y. Huang (Univ. of Illinois at Urbana-Champaign, USA), James C. Hone (Columbia Univ., USA), Hu Young Jeong (UNIST, Korea), Jin-Woo Park (Yonsei Univ., Korea), Chul-Ho Lee (KU-KIST Graduate School of Converging Science and Technology, Korea), and Gwan-Hyoung Lee (Seoul Nat'l Univ., Korea)

[P10-24]

High Conductivity Sodium Ionic Gel Polymer Electrolyte and Its Application on Excellent All-Solid-State Micro-Supercapacitor for Display

Nguyen Thi Huyen, Dawoon Lee (Hanyang Univ., Korea), U Hyeok Choi (Inha Univ., Korea), and Jaekyun Kim (Hanyang Univ., Korea)

[P10-25]

Highly Efficient Thermally-Deposited Perovskite Light-Emitting Diodes with a Polymer Passivation Layer

Nakyung Kim, Mingue Shin, Joonyun Kim, Jinu Park, Seongmoon Jun, Yong-Hoon Cho, and Byungha Shin (KAIST, Korea)

[P10-26]

Polarization-Insensitive Metasurface Hologram with Low-Noise Optimization

Changhyun Kim, Jangwoon Sung, and Byoungho Lee (Seoul Nat'l Univ., Korea)

[P10-27]

High Performance Blue Hyperfluorescence System by Prohibiting Dexter Energy Transfer of Triplet Exciton

Hyuna Lee, Ki joon Yang, Soon Jae Hwang, Kenkera Rayappa Naveen, and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

[P10-28]

Organic Thin-Film Transistors with a Water-Processable Solid Electrolyte as a Gating Element

Solin Lee and Felix Sunjoo Kim (Chung-Ang Univ., Korea)

[P10-29]

Understanding the Origin of Sub-Bandgap Emission from Zero-Dimensional Perovskite Cs_4PbBr_6

Mingue Shin (KAIST, Korea), Sung-Wook Nam (Kyungpook Nat'l Univ., Korea), Aditya Sadhanala, Ravichandran Shivanna, Miguel Anaya (Univ. of Cambridge, UK), Alberto Jiménez-Solano (Max Planck Institute for Solid State Research, Germany), Hyewon Yoon, Seokwoo Jeon (KAIST, Korea), Samuel D. Stranks, Robert L. Z. Hoye (Univ. of Cambridge, UK), and Byungha Shin (KAIST, Korea)

[P10-30]

Facile Synthesis of $CsPbBr_3$ Nanorods Using Stripping Method for High Performance Light-Emitting Diodes

Myeonggeun Han and Yong-Young Noh (POSTECH, Korea)

[P10-31]

Electrical Modulation of Exciton Complexes in Light Emitting Tunnel Transistors of Van der Waals Heterostructure

Huije Ryu (Seoul Nat'l Univ., Korea), Junyoung Kwon (Yonsei Univ., Korea), Seunghoon Yang (Korea Univ., Korea), Young Duck Kim (Kyung Hee Univ., Korea), Chul-Ho Lee (Korea Univ., Korea), and Gwan-Hyoung Lee (Seoul Nat'l Univ., Korea)

[P10-32]

Large-Scale Synthesis of Two-Dimensional Rhenium Disulfide for High-Performance Photodetectors

Bo Hyeon Kim, Da Som Song, Sunyoung Shin, Wooseok Song (KRICT, Korea), Sang Don Bu (Jeonbuk Nat'l Univ., Korea), and Jongsun Lim (KRICT, Korea)

[P10-33]

The Effect of Thermal Annealing to Radiatively Recombination of Interlayer Exciton in $MoSe_2/WSe_2$ Heterobilayer

Ji-Hwan Baek, Huije Ryu (Seoul Nat'l Univ., Korea), Soo Yeon Lim, Jung Cheol Kim, Hyeonsik Cheong (Sogang Univ., Korea), and Gwan-Hyoung Lee (Seoul Nat'l Univ., Korea), Hyoung Kyun Kim (Seoul National University, Republic of Korea), Miyoung Kim (Seoul National University, Republic of Korea)

[P10-34]

Self-Controlled Electroactive Tunable Liquid Lens for Stabilized Focal Length Change

Jong Hyeon Ka, Im Bo Gong, and Wook Sung Kim (POSTECH, Korea)

[P10-35]

High Efficiency, High NA, Large-Area Metalens in Near-Infrared for LiDAR

Seong-Won Moon, Younghwan Yang, and Junsuk Rho (POSTECH, Korea)

[P10-36]

Electrical and Optical Characterization of Visible Parylene C Films

Ye-Seul Lee, Ji-Hyeon Yoon, Akpeko Gasonoo, Yoonseuk Choi, Jonghee Lee, and Jae-Hyun Lee (Hanbat Nat'l Univ., Korea)

[P10-37]

Application of Multi-Layer Visible Parylene Films in Advance Optical Systems

Seung-Yo Baek, Ye-Seul Lee, Akpeko Gasonoo, Jonghee Lee, and Jae-Hyun Lee (Hanbat Nat'l Univ., Korea)

[P10-38]

Wavelength Dependent Light Induced Degradation of Inverted Perovskite Solar Cells

BeomHee Yoon (Kwangwoon Univ., Korea), Jeonghun Kwak (Seoul Nat'l Univ., Korea), and Hyunho Lee (Kwangwoon Univ., Korea)

[P10-39]

Polarization-Selective Metasurface Structural Color Display via Deep Neural Network

Hyunwoo Son, Jangwoon Sung, and Byoungho Lee (Seoul Nat'l Univ., Korea)

[P10-40]

Inverse Design for Multi-Wavelength Meta-Holograms

Junhyeok Jang, Hyunwoo Son, Chulsoo Choi, and Byoungho Lee (Seoul Nat'l Univ., Korea)

[P10-41]

3D Printed Highly Conductive Stretchable Electrodes for Deformable Display Applications

Hyunjoo Cho, Youngpyo Ko, Heesuk Kim (KIST, Korea), Jaewook Jeong (Chungbuk Nat'l Univ., Korea), Byeongmoon Lee, and Seungjun Chung (KIST, Korea)

[P10-42]

Active Metafilm for Enhanced Amplitude Modulation of Visible Light

Kyuho Kim (Seoul Nat'l Univ., Korea), Sun-Je Kim (Myongji Univ., Korea), and Byoungho Lee (Seoul Nat'l Univ., Korea)

[P10-43]

Analysis of the Oxygen Assisted Defect Control Effect at Metal-MoS_2 Junction

Woonggi Hong, Cheol Min Park, Gi Woong Shim, Sang Yoon Yang, and Sung-Yool Choi (KAIST, Korea)

[P10-44]

Performance Enhancement of Nonvolatile Organic Floating-Gate Phototransistor Memory for Image Sensor Applications

Reitaro Hattori, Takashi Nagase, Naoyuki Nishida, Takashi Kobayashi, and Hiroyoshi Naito (Osaka Prefecture Univ., Japan)

[P10-45]

Control of Domain Structure in Catalyst-Assisted Growth of Single-Layer MoS_2

Min-Yeong Choi, Chang-Won Choi, Seong-Jun Yang, Hojeong Lee, Jinho Lee, Shinyoung Choi, Jun-Ho Park, Jong Heo, Si-Young Choi, and Cheol-Joo Kim (POSTECH, Korea)

[P10-46]

Graphene Multi-via Contacts for 3D Integration of 2D Devices

Yongjun Shin (Seoul Nat'l Univ., Korea), Junyoung Kwon (Yonsei Univ., Korea), and Gwan-Hyoung Lee (Seoul Nat'l Univ., Korea)

[P10-47]

Photocatalytic Layer on IGZO for Nonvolatile Visible Light Photomemory

Jong Bin An, Byung Ha Kang, Kunho Moon, Sujin Jung, I Sak Lee, Jong Hyuk Ahn, and Hyun Jae Kim (Yonsei Univ., Korea)

[P10-48]

$MoSe_2$ Transistor with Improved P-type Characteristics through Low Temperature Annealin

Seongjae Kim (Gachon Univ., Korea), Seongin Hong (The Univ. of Texas at Austin, USA), and Hocheon Yoo (Gachon Univ., Korea)

[P10-49]

Development of Low-Temperature Sintered Silver Paste for Flexible Displays

Sun Hong Yoon (KETI, Korea)

[P10-50]

a-IGZO TFTs with Transparent Ultrathin Metal Source and Drain Electrodes Fabricated on Flexible Glass Substrates for Transparent and Flexible Electronics Application

Yujin Hwang, Sujin Heo, and Hongki Kang (DGIST, Korea)

[P10-51]

Pressure Effects on Structural and Electrical Properties of Spray Coated, Stretchable Silver Nanowire Electrode on PDMS Substrate

Jonghyun Jeong and Jaewook Jeong (Chungbuk Nat'l Univ., Korea)

[P10-52]

Highly Transparent and Wide Viewing Optical Films Using Hierarchical Double-Shell Layered Nanoparticle with Gradient Refractive Index Surface

Jin-Wook Choi, Seung-Rak Son, Jongil An, Soyern Kim, Jisung Park, Chan Beom Park, and Jun Hyup Lee (Soongsil Univ., Korea)

[P10-53]

Effect of Anode-Interface Adhesion on Stress Stability of Organic Light-Emitting Diodes

Byung Min Jeon and Sung Min Cho (Sungkyunkwan Univ., Korea)

[P10-54]

Photoalignment Properties of Photopolymer based on Chalcone Groups for Optical Retarder Film

Yeong Rang Kim, Jeong Ju Baek, Youn-Jung Heo, Ki Cheol Chang, Sung Man Park, Young Hun Kim, Geun Yeol Bae, Hyo Sun Lee, Kyung Ho Choi, and Gyo Jic Shin (KITECH, Korea)

[P10-55]

Effectice Conversion of Perhydropolysilazne to Silicon Oxide by UV Processes with Addition of Photobase Generator

Sung-Man Park, Jeong-Ju Baek, Youn-Jung Heo, Ki-Cheol Chang, Young-Hum Kim, Yeong-Rang Kim, Geun-Yeol Bae, Hyo-Sun Lee, Kyung-Ho Choi, and Gyo-Jic Shin (KITECH, Korea)

[P10-56]

Preparation of Fluorinated Silica-Zirconia Thin Layers Derived from Perhydropolysilazane and Their Properties

Jeong Ju Baek, Sung Man Park, Yeong Rang Kim, Young Hun Kim, Ki Cheol Chang, Youn-Jung Heo, Geun Yeol Bae, Hyo Sun Lee, Kyung Ho Choi, and Gyo Jic Shin (KITECH, Korea)

[P10-57]

Ambipolar Charge Transport Behavior of Poly(9,9-di-n-octylfluorenyl-2,7-diyl)-Molybdenum Disulfide Heterojunction Phototransistors

Dong Hyun Lee (Gachon Univ., Korea), Hyung Joong Yun (KBSI, Korea), Seongin Hong (The Univ. of Texas at Austin, USA), and Hocheon Yoo (Gachon Univ., Korea)

[P10-58]

Gold-Welded Silver Nanowire Network-Based Stretchable Electrodes for Wearable Applications

Dongju Jang, Hyeon Cho, Byeongmoon Lee, and Yongtaek Hong (Seoul Nat'l Univ., Korea)

[P10-59]

Charge Trapping and Hysteresis Behavior in Carbon Nanotube Thin-Film Transistor with Ferroelectric Dielectric Layer

Hyunjun Yoo, Jiseok Seo, and Yongtaek Hong (Seoul Nat'l Univ., Korea)

[P10-60]

Augmented Phase Correction for Improving the Sensing Image Quality of the Ultrasonic Fingerprint Sensor Integrated OLED System

Hyundo Shin, Hyun Sung Park, Yudeok Seo, Dongjin Seo, and Yongjo Kim (Samsung Display Co., Ltd., Korea)

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[P11-1]

Touchless User Interactive High-Resolution Light Field Display System Using a Three-Dimensional Tracking Camera

Md. Shahinur Alam, Joon Hyun Kim, Jin Kyu Jung, Young-Tae Lim, Md. Biddut Hossain (Chungbuk Nat'l Univ., Korea), Kwon-Yeon Lee (Sunchon Nat'l Univ., Korea), Yong-Joo Yoo, and Nam Kim (Chungbuk Nat'l Univ., Korea)

[P11-2]

Stretchable Capacitance Sensor against Strain Deformation

Sang Gyeong Nam, Jun Hyuk Shin, Su An Lee, and Su Seok Choi (POSTECH, Korea)

[P11-3]

Polarization Induced Deformation Sensing in Thin Film Transistor

Jae Wook Lee, Jun Hyuk Shin, and Su Seok Choi (POSTECH, Korea)

[P11-4]

Low Cost, Highly Efficient Silicon Microwires Based FET Gas Sensor

Quang Trung Le, Kumin Kang, and Jaekyun Kim (Hanyang Univ., Korea)

[P11-5]

Ion-Gel Gated Organic Synaptic Tactile Transistor based on Piezo-Modulated Ion Dynamics

Chi Hoon In, Yunah Kim, Joo Sung Kim, Hyukmin Kweon, Hanbin Choi, and Do Hwan Kim (Hanyang Univ., Korea)

[P11-6]

Effects of Edge Passivation and Intense Pulsed Light (IPL) Treatment on Organic Photodiode for Image Sensor Array

Yoon-Su Kim, Soryeong Jeong, Byungwook Yoo, Chul Jong Han (KETI, Korea), Byeong-Kwon Ju (Korea Univ., Korea), and Min Suk Oh (KETI, Korea)

[P11-7]

Flexible Pressure Sensors based on Heterogeneous Graphene Oxide

Sung Chan Jo and Tae Hoon Lee (Kwangwoon Univ., Korea)

[P11-8]

Inkjet Printed Cellulose Nanofiber/Carbon Nanotube-Based Flexible Pressure Sensor

Dong Keon Lee, Daesik Kim, and Yongtaek Hong (Seoul Nat'l Univ., Korea)

[P11-9]

Facile Adhesive Patterning of 3-D Curved PDMS for Various Human-Interactive Sensors

Jinsu Yoon, Geonhee Kim, Jongho Park, Hayun Kim, and Yongtaek Hong (Seoul Nat'l Univ., Korea)

[P11-10]

Stretchable Pressure Sensor Using Conductive Silicone Elastomer Composite with Rigid Island Structure

Jiseok Seo, Seongdae Choi, Hanul Kim, Daesik Kim, Hyungsoo Yoon, and Yongtaek Hong (Seoul Nat'l Univ., Korea)

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[P12-1]

Edge-Illuminated Connectable Modular-Pixel Aero Signage Display Whose Pixel Elements Enable to Joint Light Guides and Change Colors for Spatial Imaging

Kunio Sakamoto and Daiki Honda (Konan Univ., Japan)

[P12-2]

A Study on the Performance Improvement of High-Power White LED Lightings Depending on the Arrangement of the Red Quantum Dot Caps

Gi Jung Lee, Jung Gyun Lee, Seung Chan Hong (Hallym Univ., Korea), Taehee Park, Young Wook Ko (GLVISION Co., Ltd., Korea), and Jae-Hyeon Ko (Hallym Univ., Korea)

[P12-3]

Realization of High Color Rendering Index of Conventional White Lighting by Using Red Quantum Dot Films

Seung Chan Hong, Gi Jung Lee, Se Ri Park, Sung Tae Gwak (Hallym Univ., Korea), Young Wook Ko (Cheorwon Plasma Research Inst., Korea), Young Duk Kim (GLVISION Co., Ltd., Korea), and Jae Hyeon Ko (Hallym Univ., Korea)

[P12-4]

Methacrylate-Functionalized Perovskite Nanocrystals Encapsulated by Siloxane Hybrid for Stable Color-Converting Materials in Display

Yongmin Shin, Junho Jang, Hyungshin Kweon, and Byeong-Soo Bae (KAIST, Korea)

[P12-5]

Microfluidic Strain Sensor Using Electroluminescent ZnS:Cu Particles

Hong-Sik Eom and Suk Tai Chang (Chung-Ang Univ., Korea)

[P12-6]

Efficiency Variation Analysis Depending on Hosts in ν-DABNA TADF Devices

Kijoon Yang, Hyuna Lee, Soon Jae Hwang, Kenkera Rayappa Naveen, and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

[P12-7]

Analysis of Recombination Zones Using Sensing Layer Method with Aging in Phosphorescent Organic Light Emitting Diodes

Hojung Shin, Yoonkyoo Lee, Jin Won Sun, and Changwoong Chu (Samsung Display Co., Ltd., Korea)

[P12-8]

Metal-Free and Pure Organic Phosphorescent Green Emitters for Non-Doped OLEDs by Using Secondary Interaction Effect

Taehyun Kim, Hae Un Kim, and Taiho Park (POSTECH, Korea)

[P12-9]

Investigation of Substituent Effects on Cyclometalating Ligand Ir(III) Complexes for Solution-Processable Red-NIR Organic Light-Emitting Diodes

Chanhyeok Kim, Hae Un Kim, and Taiho Park (POSTECH, Korea)

[P12-10]

Introducing Rigid Ancillary Ligand for Structural Robustness towards Highly Efficient Red to NIR Emissive OLEDs

Jeongsu Kim, Chanhyeok Kim, and Taiho Park (POSTECH, Korea)

[P12-11]

Laser Desorption/Ionization Time of Flight Mass Spectrometry for OLED Materials and Devices

Yoonseok Oh, Min Gee Kim, Jooyeon Oh, Dongjin Shin (ASTA Inc., Korea), KyoungHee Sung, and SeokRyoul Lee (LG Display Co., Ltd., Korea)

[P12-12]

Ideality Factor of InGaN-Based Light-Emitting Diodes Investigated by Photovoltaic Parameters

SangJin Min, Gyeong Won Lee, Jong-In Shim, and Dong-Soo Shin (Hanyang Univ., Korea)

[P12-13]

Lifetime Improvement in DABNA Type Blue Emitter Devices

Sang Min Cho, Hye In Yang, Seung Hyun Lee, and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

[P12-14]

Merits of Narrow FWHM Blue Emitter in Top Emission OELD

Hye In Yang, Sang Min Cho, Seung Hyun Lee, and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

[P12-15]

Ortho-Terphenyl Core Based High Triplet Energy Bipolar Host Materials for Stable and Efficient Blue TADF Device

Seung Hyun Lee, Hyuna Lee (Kyung Hee Univ., Korea), Jun Hyuk Park, Chil Won Lee (Dankook Univ., Korea), and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

[P12-16]

InGaN Based Core-Shell Nanowire Photonic Crystals for Display Applications

Sung-Un Kim, Hye-Young Kwon (KICET, Korea), Dong-Wook Shin (Hanyang Univ., Korea), and Yong-Ho Ra (KICET, Korea)

[P12-17]

Fabrication of Highly Efficient and Flexibility NIR $LaMgGa_{11-x}O_{19}:xCr^{3+}$ Phosphor Film for Wearable PBM Bio-OLED

Thi My Linh Dang, Thien Tri Tran, Ho Kyoon Chung, Sung Min Cho, and Deok Su Jo (Sungkyunkwan Univ., Korea)

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[P13-1]

Siloxane Encapsulated Upconversion Nanoparticle and Flexible Near Infrared Detectable MoS_2 Phototransistors

Injun Lee, Minsoo Kang, Tae Soo Kim, Kibum Kang (KAIST, Korea), Wonryung Lee (KIST, Korea), and Byeong-Soo Bae (KAIST, Korea)

[P13-2]

Optogenetic Brain Stimulation by Self-Powered Flexible Micro Light-Emitting Diodes

Han Eol Lee (Jeonbuk Nat'l Univ., Korea)

[P13-3]

Highly Mechanosensitive, Biocompatible Ionogel with Trap and Release Ion Dynamics for Implantable Bioelectronics

Junjae Park, Joo Sung Kim, Yunah Kim, and Do Hwan Kim (Hanyang Univ., Korea)

[P13-4]

Design of Ethylene Oxide Based Interpenetrating Conducting Polymer Network for Highly Efficient Bio-signal Transduction

Sangjun Park, Hyukmin Kweon, Chaeyoung Lee, Junjae Park, and Do Hwan Kim (Hanyang Univ., Korea)

[P13-5]

Medifoam-Based Biocompatible Resistive Random-Access Memory for Skin-Wearable Healthcare Devices

Min Seong Kim, Sujin Jung, Dong Hyun Choi, Hyung Tae Kim, Jusung Chung, and Hyun Jae Kim (Yonsei Univ., Korea)

[P13-6]

Mussel Protein-Based Flexible Resistive Random Access Memory for Wearable Electronic Applications

Sung Min Rho, Kunho Moon, Min Seong Kim, and Hyun Jae Kim (Yonsei Univ., Korea)

[P13-7]

Fucoidan-Based Resistive Random-Access Memory for Edible Electronics

Kyungmoon Kwak, Hyung Tae Kim, Kyungho Park, I Sak Lee, and Hyun Jae Kim (Yonsei Univ., Korea)

[P13-8]

Optical Design Considerations for Safe Ultraviolet Wearable Light Therapeutic Devices

Jaehyeok Park (KAIST, Korea), Hyuk Joo Lee (Seoul Nat'l Univ. Bundang Hospital, Korea), Sunhyoung Koo (KAIST, Korea), In-Young Yoon (Seoul Nat'l Univ. Bundang Hospital, Korea), and Seunghyup Yoo (KAIST, Korea)

[P13-9]

A Comprehensive Strategy for Reducing the Dark Current in Organic Photodiodes

SangIn Hahn, Ramakant Sharma, and Seunghyup Yoo (KAIST, Korea)

[P13-10]

High-Efficiency Solution-Processed Near-Infrared Organic Photodiodes

Jeoungmin Ji, Hyung Suk Kim, Ramakant Sharma, Woochan Lee, Carmela Michelle Esteban, and Seunghyup Yoo (KAIST, Korea)

[P13-11]

Application of UV-Filtering Down-Conversion Layer on Flexible Organic Solar Cells

Carmela Michelle Esteban, Ramakant Sharma, Woochan Lee, and Seunghyup Yoo (KAIST, Korea)

[P13-12]

Study on Tuning Red Emission Spectra for Biological OLED Application

Thien Tri Tran, Thi My Linh Dang, Ho Kyoon Chung, Deok Su Jo, and Sung Min Cho (Sungkyunkwan Univ., Korea)

[P13-13]

Optoelectrical Determination of Blood Components by Tin Oxide Quantum Dots-Fluorene Copolymer Heterojunction Self-powered Photodetectors

Taehyun Park and Hocheon Yoo (Gachon Univ., Korea)

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[P13-14]

Dependency of Current Compliance Level on Electrical Characteristics of a Peptide-Based Memristor

Jeong Hyun Yoon, Min-Kyu Song, and Jang-Yeon Kwon (Yonsei Univ., Korea)

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[P14-1]

Identifying the Role of the Sidewall Defects for GaN-Based Micro Light-Emitting Diodes by Comparative Analysis

Jinwoo Park, Gyeong Won Lee, Jun-Seok Hwang, and Jaekyun Kim (Hanyang Univ., Korea)

[P14-2]

Effect of Size-Dependent Leakage Current from Sidewall Defects of InGaN-Based Green Micro Light-Emitting Diodes

Youngwook Shin (Hanyang Univ., Korea), Jun-Beom Park, Sangjin Min (KOPTI, Korea), Dong-Soo Shin, Jong-In Shim (Hanyang Univ., Korea), Tak Jeong (KOPTI, Korea), and Jaekyun Kim (Hanyang Univ., Korea)

[P14-3]

Optimization of Dielectrophoretic Assembly of Micro Light-Emitting Diodes by Numerical Analysis

Byeong-u Bak and Jaekyun Kim (Hanyang Univ., Korea)

[P14-4]

Change in Optoelectronic Performances of InGaN-Based Flip-Chip Blue Micro Light-Emitting Diodes under Continuous Current Stress

Abu Bashar Mohammad Hamidul Islam (Korea Institute of Energy Technology, Korea), Tae Kyoung Kim, Yu-Jung Cha (Sunchon Nat'l Univ., Korea), Dong-Soo Shin, Jong-In Shim (Hanyang Univ., Korea), and Joon Seop Kwak (Korea Institute of Energy Technology, Korea)

[P14-5]

Thermal Stability and Adhesion Improvement of InGaN-Based Flip-Chip Blue Micro Light-Emitting Diodes with Sputtered Silver Alloy Reflective Contacts

Yu-Jung Cha, Xuan Zhang, Tae Kyong Kim (Sunchon Nat'l Univ., Korea), Abu Bashar Mohammad Hamidul Isla, and Joon Seop Kwak (Korea Inst. of Energy Tech., Korea)

[P14-6]

Realization of RGB Full-Color LED Array by Selective Area Growth and Adhesive Bonding

Soo-Young Choi, Hoe-Min Kwak, Seung-Hyun Mun, Je-Sung Lee, and Dong-Seon Lee (GIST, Korea)

[P14-7]

Acoustic Manipulation of LED Chips on the Fine Metal Mask for LED Display Application

Seong Hyeon Noh, Je Jun Ryu, Chang Wan Park (Chung-Ang Univ., Korea), Dong Young Sung (APS Holdings, Korea), and Jae Soo Yoo (Chung-Ang Univ., Korea)

[P14-8]

PWM Controlled Micro LED Display With Double-Gate Thin-Film Transistors

Taesoo Kim and Jaehong Jeon (Korea Aerospace Univ., Korea)

[P14-9]

Reduced Power Consumption in Blue Micro-LED Display with P-Type LTPS TFT Using Short-Emission-Time Pulse Amplitude Modulation(PAM)

Sara Hong, Eun Kyo Jung, Yong-Hoo Hong, Eunho Kim, Hwarim Im, and Yong-Sang Kim (Sungkyunkwan Univ., Korea)

[P14-10]

The Effect of Dry Etching Condition on the Micro-LED

Jeong-Hwan Park, Heajeong Cheong, Yasuhisa Ushida, Wentao Cai, Yuta Furusawa, and Hiroshi Amano (Nagoya Univ., Japan)

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[P15-1]

Anticounterfeiting Using Mosaics of Pixelated Wrinkles of Liquid Crystalline Polymer

Kitae Kim (Chungnam Nat'l Univ., Korea), Subi Choi, Suk-kyun Ahn (Pusan Nat'l Univ., Korea), and Jun-Hee Na (Chungnam Nat'l Univ., Korea)

[P15-2]

Comparision of Figure-of-Merit Efficiency in Liquid Crystal Phase Shifter Operating Modes: Electrically Controlled Birefringence vs. In-Plane Switching

Jinyoung Choi and Wooksung Kim (POSTECH, Korea)

[P15-3]

Analytical Study of Bi-Layered Chiral Liquid Crystal Photonic Band Filter

Dahee Wang, Seungmin Nam, and Su Seok Choi (POSTECH, Korea)

[P15-4]

Optical Characteristics of Stretchable Chiral Photonic Film based on Chiral Liquid Crystals via in situ Photopolymerization

Seungmin Nam, Dahee Wang, and Su Seok Choi (POSTECH, Korea)

[P15-5]

Programmable Liquid Crystal Defect Arrays via Electric Field Modulation for Mechanically Functional Liquid Crystal Networks

Ra You, Changjae Lee, and Dong Ki Yoon (KAIST, Korea)

[P15-6]

Liquid Crystal Elastomers with Slide-Ring Cross-Links: Mechanical Properties, Actuation, and Self-Healing

Subi Choi (Pusan Nat'l Univ., Korea), Bit Ga Ram Kim, Ji-hun Seo (Korea Univ., Korea), and Suk-kyun Ahn (Pusan Nat'l Univ., Korea)

[P15-7]

Shape Reprogrammble and Reprocessable Liquid Crystal Elastomers with Poly(Ether-Thiourea) Dynamic Crosslinker

Jin-Hyeong Lee (Pusan Nat'l Univ., Korea), Dong-Gyun Kim, Yong Seok Kim (KRICT, Korea), and Suk-kyun Ahn (Pusan Nat'l Univ., Korea)

[P15-8]

Resolution-Improved Autostereoscopic 3D Display by Using Virtual-Moving Lenticular Lens Array

Min-Kyu Park (KOPTI, Korea), Tae-Hyun Lee (Kyungpook Nat'l Univ., Korea), Seon Kyu Yoon, Kwang-Hoon Lee (KOPTI, Korea), and Hak-Rin Kim (Kyungpook Nat'l Univ., Korea)

[P15-9]

High-Responsivity Phototransistor based on Large-Grain Boundary Perovskite/IGZO Hybrid Structures

Gi-Sang Choi, Seohyun Maeng (Hanyang Univ., Korea), Hansol Kim, Ki-Ha Hong (Hanbat Nat'l Univ., Korea), and Jaekyun Kim (Hanyang Univ., Korea)

[P15-10]

Multi-Directional Orientation Control of Lyotropic Chromonic Liquid Crystals via Capillary Bridge

Hee Seong Yun, Geonhyeong Park, and Dong Ki Yoon (KAIST, Korea)

[P15-11]

Engineering Optical Rotation in Chiral Photonic Film for Configurable Color Filter

Wongi Park, Yun-Seok Choi, Hyewon Park, and Dong Ki Yoon (KAIST, Korea)

[P15-12]

4D Printing of Hygroscopic Liquid Crystal Elastomers

Keumbee Kim, Yuanhang Guo, Jaehee Bae, Subi Choi, and Suk-kyun Ahn (Pusan Nat'l Univ., Korea)

[P15-13]

Advanced Bistable Cholesteric Light Shutter

Gwan Yong Lee, Eun Ji Kim, Young Jin Lim, Min Su Kim, and Seung Hee Lee (Jeonbuk Nat'l Univ., Korea)

[P15-14]

Tunable Optic Axis of Optically Isotropic Liquid Crystals between Negative C and Positive C

Hyoung Soo Park, Da Yeon Lee, Min Su Kim, Young Jin Lim, and Seung Hee Lee (Jeonbuk Nat'l Univ., Korea)

[P15-15]

Polymer Stabilized Optical Vortex Generation of the Standing Wave Mediated Defects in the Nematic Liquid Crystals

Vijay Kumar Baliyan, Doyeon Lee, and Jang-Kun Song (Syungkyunkwan Univ., Korea)

[P15-16]

Electro-Optical Properties of Hockey-Stick-Shaped and Nematic Liquid Crystals Mixture for Fast Response Time

Phuc Toan Dang (Jeonbuk Nat'l Univ., Korea), Anoop Kumar Srivastava (Dr. R.M.L. Avadh Univ., India), E-Joon Choi (KIT, Korea), and Ji-Hoon Lee (Jeonbuk Nat'l Univ., Korea)

[P15-17]

Color Glass by Layered Nitride Films for Building Integrated Photovoltaic System

Akpeko Gasonoo, Hyeon-Sik Ahn, Seongmin Lim, Jae-Hyun Lee, and Yoonseuk Choi (Hanbat Nat'l Univ., Korea)

[P15-18]

Analysis of Hole-Transporting Organic Molecules by Time-Drive Electrochemical and Optical Spectroscopic Methods

Hye-Ri Joe, Seo-Yoon Lee, Akpeko Gasonoo, Jonghee Lee, and Jae-Hyun Lee (Hanbat Nat'l Univ., Korea)

[P15-19]

PI-Less Normally Transparent Polymer Networked Liquid Crystal Light Shutter with Two-Step Exposure Method

Mira Jo, Minji Kang, Young Jin Lim, and Seung Hee Lee (Jeonbuk Nat'l Univ., Korea)

[P15-20]

Chiral Detection by Mesogenic Luminophore with Orthogonally Polarized Emission

Myoung-Jin Han, Jae-Hoon Kim, and Chang-Jae Yu (Hanyang Univ., Korea)

[P15-21]

Time-Dependent Degradation of Circular Polarization Ratio in Chiral Mesogenic Luminophore

Cheong-Min Shin, Yanqiu Chen (Hanyang Univ., Korea), E-Joon Choi (KIT, Korea), Chang-Jae Yu, and Jae-Hoon Kim (Hanyang Univ., Korea)

[P15-22]

Bidirectional Orientation Control of Elongated Particle Using Symmetry Breaking in Nematic Liquid Crystals

Jun-Yong Lee, Jeong-Seon Yu, and Jong-Hyun Kim (Chungnam Nat'l Univ., Korea)

[P15-23]

Control of Surface Anchoring Energy of Nematic Liquid Crystals via Nano-Spikes of Reactive Mesogen

Eunsu Cho, Jun-Hyung Im, and Young-Ki Kim (POSTECH, Korea)

[P15-24]

Design of Liquid Crystalline Sensor for Carbon Nanotube Agglomerations

Jin-Kang Choi, Won-Sik Kim, and Young-Ki Kim (POSTECH, Korea)

[P15-25]

Molecular Reorientation of Nematic Liquid Crystals by Diarylethene-Based Molecular Switch

Hyein Kim, Kwang-Suk Oh, and Young-Ki Kim (POSTECH, Korea)

[P15-26]

Optical Conditions of α-ZrP Colloid for Electro-Optical Reflectance

Ju-Young Park, PANS. Priyadharshana, Asela Perera, Seung-Ho Hong, and Jang-Kun Song (Sungkyunkwan Univ., Korea)

[P15-27]

Window Shutter with Low Driving Voltage

Jeong Won Ryu, Hui Su Shin, Hyeon Jong Choi, Gyu Jin Choi, and Jin Seog Gwag (Yeungnam Univ., Korea)

[P15-28]

Hybrid-Aligned Polymer Network Liquid Crystal for Window Shutter

Huisu Shin, Hyeon Jong Choi, Jeong Won Ryu, and Jin Seog Gwag (Yeungnam Univ., Korea)

[P15-29]

Optically Tunable PEDOT:PSS Coated Liquid Crystal Elastomer Optical Devices

Sung-Min Jang, Young-Woo Park, Sung-Chum Kang, Doyeon Lee, and Jang-Kun Song (Sungkyunkwan Univ., Korea)

[P15-30]

Light Driven Artificial Joint for Soft Robotics Using Azo Dye Doped Liquid Crystal Elastomers

Sung-Cheon Kang, Doyeon Lee, Seong-Min Jang, Yong-Woo Park, and Jang-Kun Song (Sungkyunkwan Univ., Korea)

[P15-31]

Colorful Perovskite Solar Cells with Cholesteric-Based Reflective Filters

Sangwok Bae and Suk-Won Choi (Kyung Hee Univ., Korea)

[P15-32]

Circularly Polarized Luminescence from Nano-Segregated Phases

Jae-Jin Lee and Suk-Won Choi (Kyung Hee Univ., Korea)

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[P16-1]

Highly Efficient Blue Fluorescent OLED Using Localized Surface Plasmonic Resonance by Ag-Au Nanoparticles

Hakjun Lee, Hye Won Nam, Ki Ju Kim, Sun-kyo Kim, Heesun Yang, Young Kwan Kim, and Taekyung Kim (Hongik Univ., Korea)

[P16-2]

Electro-Optical Characteristics and Lifetime Study of Green Phosphorescent Organic Light-Emitting Diode Using Mixed Host

Nuri Oh, Ho-jin Jang, and Jun-Yeob Lee (Sungkyunkwan Univ., Korea)

[P16-3]

Influence of the Position of the Defects on the Degradation of Blue Organic Light-Emitting Didoes Under Constant-Current Operation

Gyeong Won Lee, Jun-Seok Hwang (Hanyang Univ., Korea), Junggeun Jhin (Advanced View Tech., Korea), Jaekyun Kim, Jong-In Shim, and Dong-Soo Shin (Hanyang Univ., Korea)

[P16-4]

Doping Effect of the Polymer Hole Injection Layer on the Performance of Solution Processed Organic Light-Emitting Diodes

Seung Wan Woo, Gunel Huseynova, Jae-Min Yoo, Baeksang Sung, Jangwon Lee, Seung-Hoon Lee, Jinhwa Kim (Hanbat Nat'l Univ., Korea), Yong Hyun Kim (Pukyong Nat'l Univ., Korea), Jae-Hyun Lee, and Jonghee Lee (Hanbat Nat'l Univ., Korea)

[P16-5]

A New Approach Using High-Transmission Polarizers in OLED

Young Wook Kim, Min-Hyung Kim, Tae-Woon Ko, Hyun-Jong Noh, and Joun-Ho Lee (LG Display Co., Ltd., Korea)

[P16-6]

Impedance Analysis of Thermally Activated Delayed Fluorescence OLED based on Debye Model

Dongyoun Yoo, Hyosup Shin, Eungdo Kim, and Changwoong Chu (Samsung Display Co., Ltd., Korea)

[P16-7]

A Study on the Different Properties of Triplet-Triplet Fusion (TTF) And External Quantum Efficiency (EQE) Curves of ADN- and MADN- Based Blue Organic Light-Emitting Diodes (OLEDs)

You Na Song, Kyo Min Hwang, Bu Bae Park, Seonghwan Hong, Young Kwan Kim, and Taekyung Kim (Hongik Univ., Korea)

[P16-8]

Improved Out-Coupling Efficiency of Organic Light-Emitting Diodes Using Micro-Sized Perovskite Crystalline Template

Jangwon Lee, Seung Wan Woo, Baeksang Sung, Jae-Hyeok Cho, Jinhwa Kim, Jae-Hyun Lee, Min-Hoi Kim, and Jonghee Lee (Hanbat Nat'l Univ., Korea)

[P16-9]

Fabrication of Outcoupling Enhancement Film with Bumped Surface through Polymer Blending and Selective Etching

Baeksang Sung, Jae-Hyeok Cho, Jangwon Lee, Seungwan Woo, Jinhwa Kim, Jae-Hyun Lee, Min-Hoi Kim, and Jonghee Lee (Hanbat Nat'l Univ., Korea)

[P16-10]

Analysis of Hole Injection Characteristics Solution-Processed CuSCN

Eun-Jeong Jang, Akpeko Gasonoo, Yoonseuk Choi, Jonghee Lee, and Jae-Hyun Lee (Hanbat Nat'l Univ., Korea)

[P16-11]

Organic Radicals for Efficient Near-Infrared Organic Light-Emitting Diodes

Hwan-Hee Cho (Univ. of Cambridge, UK), Shun Kimura (Inst. for Molecular Science, Japan), Neil C. Greenham, Richard H. Friend (Univ. of Cambridge, UK), Tetsuro Kusamoto (Inst. for Molecular Science, Japan), and Emrys W. Evans (Swansea Univ., UK)

[P16-12]

Enhanced Barrier Property and Stability of H:SiN$_x$ Encapsulation Film

Jingyu Kim and Sang-Hee Ko Park (KAIST, Korea)

[P16-13]

Understanding Diffusion Behaviors of Light Element in OLEDs

Moonsung Kim, Jaebum Han, Myeongkyu Park, and Nari Ahn (Samsung Display Co., Ltd., Korea)

[P16-14]

Synthesis and Evaluation of Bipolar Host Using Ortho-Terphenyl Derivatives for Balanced Recombination

Min I Han, Tae Hoon Ha, Byung Doo Chin, and Chil Won Lee (Dankook Univ., Korea)

[P16-15]

Novel N-Type Host Materials based on 2,6-Disubstituted Dibenzofuran and Dithiophene Segments for High-Efficiency and Long-Lived Blue TADF OLEDs

Hyeonwoo Jung, Seokhoon Jang, and Youngu Lee (DGIST, Korea)

[P16-16]

High Color Purity of a Blue Dual Microcavity OLED with an Absorption Layer

Jun Yong Kim and Yun Seon Do (Kyungpook Nat'l Univ., Korea)

[P16-17]

Study of Blue TADF OLED Using Co-Host System for Increasing Lifetime

Hyuk Woo Jang, Tae Hoon Ha, Byung Doo Chin, and Chil Won Lee (Dankook Univ., Korea)

[P16-18]

Synthesis and Evaluation of TADF Material of Triazine Core for Roll-Off Mitigation and Lifetime Increase

Kyeoung Wan Kim, Tae Hoon Ha, Byung Doo Chin and Chil Won Lee (Dankook Univ., Korea)

[P16-19]

Improvement of Pattern Uniformity for Inkjet-Printed OLED by the Surface Energy Control of Pixel Confinement Layer

Min Young Kim, Hyun Jun Kim, Eun Young Lee, Chil Won Lee, and Byung Doo Chin (Dankook Univ., Korea)

[P16-20]

Near-Infrared Phosphorescent Organic Light-Emitting Diodes Using Perfect Square Planar Type cis-Pt(II) Complex

Woochan Lee, Palanisamy Rajakannu, Hyungsuk Kim, and Seunghyup Yoo (KAIST, Korea)

[P16-21]

Layered Interfaces and Pattern Quality of Inkjet-Printed Organic Light Emitting Diodes on Thermally Crosslinked Small Molecular Thin Film

Eun Young lee, Min Young Kim, Hyun Jun Kim, Robert Bail, Chil Won Lee, and Byung Doo Chin (Dankook Univ., Korea)

[P16-22]

The SiO_2 and SiNx Multilayer Thin Film Deposition for Encapsulation of OLED Using a NSi-01 Single Precursor by PEALD

Sang Yong Jeon, Sang Chan Lee, Yong Hee Kwon, Tae Seok Byun, Sang Ick Lee, and Myoung Woon Kim (DNF Co., Ltd., Korea)

[P16-23]

The Perovskite and Organic Hybrid White Light Emitting Diode

Min Woo Hyeon and Min Chul Suh (Kyung Hee Univ., Korea)

[P16-25]

Inorganic Polysilazane-Based Solution-Processable Thin-Film Encapsulation for Flexible Polymer Light-Emitting Diodes

Dahyun Kim, Sujin Jeong, Hyungsoo Yoon, and Yongtaek Hong (Seoul Nat'l Univ., Korea)

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[P17-1]

Unraveling Chemisorption of Organometallic Precursors on Semiconductor Nanocrystals

Yeong-Ho Choi, Donghyo Hahm, Jun Hyuk Chang, Wan Ki Bae, and Jaehoon Lim (Sungkyunkwan Univ., Korea)

[P17-2]

Alumina Infilled PbS Quantum Dot Hybrid InGaZnO Red-NIR Phototransistor via Atomic Layer Deposition

Hye-Jin Oh, Yoon-Seo Kim, Hyun-Jun Jeong, Seungki Shin, Hyun-Mo Lee, Nuri Oh, and Jin-Seong Park (Hanyang Univ., Korea)

[P17-3]

Facilitated Hole Injection of Quantum Dot Light-Emitting Diodes Adopting Multilayered Hole Transport Layer

Jeong Ha Hwang (Gyeongsang Nat'l Univ., Korea), Junmo Kim (Kumoh Nat'l Inst. of Tech., Korea), Byong Jae Kim (Sungkyunkwan Univ., Korea), Jun Young Kim (Gyeongsang Nat'l Univ., Korea), Wonho Lee (Kumoh Nat'l Inst. of Tech., Korea), Jaehoon Lim (Sungkyunkwan Univ., Korea), and Donggu Lee (Gyeongsang Nat'l Univ., Korea)

[P17-4]

Near-Unity Quantum Yield and Narrow Emissivity of Aminophosphine-Derived, Ga-Incorporated InP Quantum Dots

Jung-Ho Jo, Dae-Yeon Jo, Hyun-Min Kim, Seung-Wan Choi, Seong-Min Park, and Heesun Yang (Hongik Univ., Korea)

[P17-5]

Effects of Heterostructural Modulation of Blue ZnSeTe Quantum Dots on Photo- and Electroluminescence

Sun-Hyoung Lee, Hyun-Min Kim, Suk-Young Yoon, Seung-Won Song, Seong-Min Park, Young-Ju Lee, and Heesun Yang (Hongik Univ., Korea)

[P17-6]

Efficiency Enhancement of Blue Quantum Dot-Light-Emitting Diode Enabled by Localized Surface Plasmon Resonance of Au-Ag Alloy Nanoparticles

Sun-Kyo Kim, Jee-Na Han, Sun-Hyoung Lee, Dae-Yeon Jo, Suk-Young Yoon, Seung-Wan Choi, Yuri Kim, and Heesun Yang (Hongik Univ., Korea)

[P17-7]

Mn and/or Cu Doping in II–VI ZnSeTe Quantum Dots: Photoluminescence and Electroluminescence

Seung-Won Song, Sun-Hyoung Lee, Yuri Kim, Jee-Na Han, Young-Ju Lee, and Heesun Yang (Hongik Univ., Korea)

[P17-8]

Suppression of the Dark Current in Colloidal Quantum Dot Photodiode with Selective Post-Treatment

Byung Ku Jung and Soong Ju Oh (Korea Univ., Korea)

[P17-9]

Hybrid Emission Layer for the Enhancing Carrier Injection Balance of All-Inorganic Inverted Quantum-Dot Light-Emitting Diodes

Dong-Jin Kim and Ho-Nyeon Lee (Soonchunhyang Univ., Korea)

[P17-10]

High-Performance Inorganic Charge Generation Layers for Tandem Quantum-Dot Light-Emitting Diodes

O-Hun Kwon and Ho-Nyeon Lee (Soonchunhyang Univ., Korea)

[P17-11]

Fabrication of Cesium Lead Halide Perovskite Light Emitting Diodes by Single Source Vacuum Evaporation

Sa-Rang Bae and Soo Young Kim (Korea Univ., Korea)

[P17-12]

InP Based Quantum Dots Light-Emitting Diodes with Double ZnO Layers by RF Sputtering Method

Myoungsuk Kang (Kyonggi Univ., Korea), Heesun Yang (Hongik Univ., Korea), and Jiwan Kim (Kyonggi Univ., Korea)

[P17-13]

Unique Quantum Dots Light-Emitting Diodes Using a Mixed Layer of Emitting Layer and Electron Transport Materials

Changgi Yoon, Aram Moon, and Jiwan Kim (Kyonggi Univ., Korea)

[P17-14]

Macroscopic and Microscopic Analysis of Energy Level in Quantum Dot Light-Emitting Diodes

Hyeonjun Lee (KAIST, Korea), Byeong Guk Jeong, Wan Ki Bae (Sungkyunkwan Univ., Korea), Doh C. Lee (KAIST, Korea), and Jaehoon Lim (Sungkyunkwan Univ., Korea)

[P17-15]

Enhanced Performance of Inkjet-Printed Quantum Dot Light-Emitting Diodes by Atomic Layer Deposited ZnO

Seyoung Oh (Seoul Nat'l Univ., Korea), Ju-Hwan Han, Hae Lin Yang, Jin-Seong Park (Hanyang Univ., Korea), and Jeonghun Kwak (Seoul Nat'l Univ., Korea)

[P17-16]

Synthesis a Cd-Free ZnSexTe1-x/ZnSe/ZnS Blue-Light-Emitted Quantum Dots

Haewoon Seo, Hyogeun Gwon, Jinsu Ha, Jehyeon Ryu, and Sang-Wook Kim (Ajou Univ., Korea)

[P17-17]

Predicting Ligand-Dependent Nanocrystal Shapes of InP Quantum Dots and Their Electronic Structures

Hyeri Yoo (KIST, Korea), Sahn Nahm (Korea Univ., Korea), Sangtae Kim (Hanyang Univ., Korea), and Gyu Weon Hwang (KIST, Korea)

[P17-18]

Fabrication of Flexible Quantum Dot-Light-Emitting Diodes Using an Epoxy Planarization Layer and an Oxide/Metal/Oxide Cathode

Mi-Jin Kim and Ho-Nyeon Lee (Soonchunhyang Univ., Korea)

[P17-19]

ZnO and QD Layer with Inkjet Printing Process for High-Resolution Pixel Pattern of Inverted QLED Devices

Youngwoo Lee and Yong-Cheol Jeong (KITECH, Korea)

[P17-20]

The Steady-State Mid-IR Intraband Transition from Ag2Se Colloidal Nanocrystal

Hae Min Song, Mihyeon Park, Dongsun Choi, and Kwang Seob Jeong (Korea Univ., Korea)

[P17-21]

Tailored Growth Control of InP Nanocrystals

Youngsik Kim, Eunhye Cho, Taewan Kim, and Sohee Jeong (Sungkyunkwan Univ., Korea)

[P17-22]

Heating-up Synthesis of Lead-Free Cesium Metal Halide Nanocrystals with Tailored Composition, Morphology, and Optical Properties

Minji Lee, Donguk Lee, and Taejong Paik (Chung-Ang Univ., Korea)

[P17-23]

Tailoring Photoluminescence Properties of Aluminum Hydroxide Nanostructures with Carbazole Derivatives

Ji-Yeon Chae, Ho-Young Woo, Min Hye Kim, Donguk Lee, Da-Won Lee, and Taejong Paik (Chung-Ang Univ., Korea)

[P17-24]

Efficiency Improvement of Full-Solution-Processed Inverted Quantum Dot Light-Emitting Diodes via Modified Surface Ligands

Yonghyeok Choi, Woosuk Lee, and Heeyeop Chae (Sungkyunkwan Univ., Korea)

[P17-25]

PbSe Quantum Dots/ITZO Hybrid Thin-Film Based Devices for Infrared Detection

Ali Sehpar Shikoh, Gi Sang Choi (Hanyang Univ., Korea), Sungmin Hong (Korea Univ., Korea), Jaekyun Kim (Hanyang Univ., Korea), and Kwang Seob Jeong (Korea Univ., Korea)

[P17-26]

Stability and Dispersion Improvement of Acrylate-Terminated Indium Phosphide Quantum Dots/Siloxane Composite via Ligand Exchange

Eunhwa Jeon, Yonghyeok Choi, and Heeyeop Chae (Sungkyunkwan Univ., Korea)

[P17-27]

Polarized Emission of Uniaxially Oriented Semiconductor Nanorods in Light-Emitting Applications

Do Joong Shin and Doh Chang Lee (KAIST, Korea)

[P17-28]

Electrohydrodynamic Jet Printed Quantum Dot Micro/Nanopatterns for Applications of Light-Emitting Diodes

Min Kyu Jung, Simon Kim, Young Taek Oh, Seung Hee Kim, Se Gi Lee, Han Sang Sung, Jeong Heun Ko, Jung Woo Lee, Ho Jun Jin, and Bong Hoon Kim (Soongsil Univ., Korea)

[P17-29]

The Effect of Mg-Doped ZnO on the InP Quantum Dot Light-Emitting Diodes

Dongbeom Heo (Kwangwoon Univ., Korea), Junhyuk Chang (Sungkyunkwan Univ., Korea), Jeonghun Kwak (Seoul Nat'l Univ., Korea), Wanki Bae (Sungkyunkwan Univ., Korea), and Hyunho Lee (Kwangwoon Univ., Korea)

[P17-30]

Efficient Interlayer for High Efficiency Inverted Green Indium Phosphide-Quantum Dot Light-Emitting Diodes

Su Jeong Kim, Chae Yeon Jeon, Raju Lampande, and Jang Hyuk Kwon (Kyung Hee Univ., Korea)

[P17-31]

High-Resolution Inkjet Printed Quantum Dot Films by Optimizing Ink Formulation

Seongkwon Hwang, Inho Jeong (KIST, Korea), Donghyo Hahm, Wan Ki Bae (Sungkyunkwan Univ., Korea), and Seungjun Chung (KIST, Korea)

[P17-32]

Room Temperature Amplified Spontaneous Emission in Colloidal Quantum Dots under Nanosecond Pumping

Suhyeon Kim, Hyekyeong Kwon, and Jiwon Bang (Wonkwang Univ., Korea)

[P17-33]

Ligand Exchange Strategies toward Bright and Stable Ag2S Nanocrystals with Ag-Rich, S-Rich and Stoichiometric Surface Stoichiometry

Yunmo Sung, Wonseok Lee, Eunjae Lee (POSTECH, Korea), Young Ho Ko (Inst. for Basic Science, Korea), and Sungjee Kim (POSTECH, Korea)

[P17-34]

Colloidal Synthesis of Shape-Controlled Cs2NaBiX6 (X = Cl, Br) Double Perovskite Nanocrystals

Doowon Choi, Wonseok Lee, and Sungjee Kim (POSTECH, Korea)

[P17-35]

Achieving High Efficiency by Improving Mobility of Oxide Nanoparticles in Quantum Dot Light-Emitting Devices

Da-Young Park, Ji-Ho Kang, Hee-Jin Park, Hyun-A Hwang, and Dae-Gyu Moon (Soonchunhyang Univ., Korea)

[P17-36]

Ligand-Assisted Sulfide Surface Treating Method of $CsPbI_3$ Perovskite Quantum Dots to Increase Photoluminescence and Recovery

Jeong Woo Han, Sa-Rang Bae, and Soo Young Kim (Korea Univ., Korea)

[P17-37]

Surface Halide Treatment of ZnSeTe Blue Emitting Quantum Dots and their Device Performance of Quantum Dot Light-Emitting Diode

Yoon-Jeong Choi, Jeong-Yeol Yoo, Jong-Gyu Kim, Chil Won Lee, Byung Doo Chin, and Jang Sub Kim (Dankook Univ., Korea)

[P17-38]

Improvement of Hole Injection Efficiency in Quantum Dot Light-Emitting Diode via Quantum Dot Surface Modification Using Dipyridyl Group

Jeong-Yeol Yoo, Yoon-Jeong Choi, Jang Sub Kim, Byung Doo Chin, Jong-Gyu Kim, and Chil Won Lee (Dankook Univ., Korea)

[P17-39]

Strain-Induced Deactivation of Nonradiative Pathway Enabling High Efficient Quantum Dots with Near-Unity Quantum Yield

ByongJae Kim (Sungkyunkwan Univ., Korea), Hyeonjun Lee (KAIST, Korea), and Jaehoon Lim (Sungkyunkwan Univ., Korea)

[P17-40]

Quantum Dot Color Conversion Layers with Mixed Scattering Particles for Improved Color Conversion Efficiency

Hyunji Park (ETRI, Korea), Donghyo Hahm, Byeong Guk Jeong (Sungkyunkwan Univ., Korea), Hyunsu Cho, Byong-Hwa Kwon, Nam Sung Cho (ETRI, Korea), Wan Ki Bae (Sungkyunkwan Univ., Korea), Jonghee Lee (Hanbat Nat'l Univ., Korea), and Sukyung Choi (ETRI, Korea)

[P17-41]

Improvement of Charge Balance in Quantum Dot Light Emitting Diode with Multi-Component Amorphous Oxide Electron Transport Layer

Hyun Jae Kim, Jiwon Kim, Hyeon-ji Baek, Kyoung Won Park, Chul Jong Han (KETI, Korea), Kimoon Lee (Kunsan Nat'l Univ., Korea), Kyu Hyoung Lee (Yonsei Univ., Korea), and Min Suk Oh (KETI, Korea)

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Hyo-Bin Kim, Jae-In Yoo, Suk-Ho Song, and Jang-Kun Song (Sungkyunkwan Univ., Korea)

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Realizing High Coverage Ratio for BT.2020 Using Cadmium-Free Red, Green, and Blue Quantum Dot Light-Emitting Diodes with Emitting Layer Combined with Organic Electron-Transporting Materials

Yukiko Iwasaki, Genichi Motomura, and Toshimitsu Tsuzuki (NHK Science & Tech. Research Lab. Japan)

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Han Sol Yang, Sung Hoon Noh, Eui Hyun Suh, Jaemin Jung, Jong Gyu Oh, Kyeong Ho Lee, and Jaeyoung Jang (Hanyang Univ., Korea)