OLED DISPLAYS II

Tuesday, May 22 / 2:00 – 3:20 pm / Ballroom B

Chair:
Jang Hyuk Kwon, *Kyung Hee University, Seoul, Korea*

Co-Chair:
Nobuki Ibaraki, *Toshiba Matsushita Display Technology Co., Ltd., Tokyo, Japan*

13.1: ***Invited Paper:*** **Technological Evolution for Large-Screen AMOLED Displays** **(2:00)**

T.Urabe, T. Sasaoka, K. Tatsuki, J. Takaki
Sony Corp., Kanagawa, Japan

A conventional vacuum evaporation process utilizing a metal mask and an LTPS backplane is well established for OLED production. However, the technology is not applicable for large-sized displays such as TVs. Technologies that breakthrough this constraint will be discussed.

13.2: **Highly Stable a-Si:H TFT Pixel for Large-Area AMOLEDs by Employing Both V_{th} Storing and Negative-Bias Annealing** **(2:20)**

J-H. Lee, H-S. Park, S-H. Choi, M-K Han
Seoul National University, Seoul, Korea

A stable voltage-programmed a-Si:H TFT pixel circuit for large-area AMOLEDs, which employs both V_{th} compensation and negative-bias annealing, is proposed. Results after 60 hours of stress at 60°C show an improved OLED current stability compared to that of a conventional 2-TFT pixel, resulting in a highly stable and uniform a-Si:H TFT backplane.

13.3: **A Novel a-Si TFT Pixel Circuit with High Immunity to the Degradation of the TFTs and OLEDs Used in AMOLED Displays** **(2:40)**

H-Y. Lu, P-T. Liu, C-W. Hu, S. Chi
National Chiao Tung University, Hsinchu, Taiwan, ROC

T-C. Chang
National Sun Yat-Sen University, Kaohsiung, Taiwan, ROC

A simple pixel circuit employing a-Si TFTs for AMOLEDs is proposed. The proposed pixel circuit can eliminate both the threshold voltage shift of the driving TFT and OLED. The simulated results indicate that the proposed circuit significantly improves the non-uniformity of the output current.

13.4: A 20.8-in. WXGA Full-Color AMOLED Display by Integrating a Scattering Reflector with Micro-Bumps **(3:00)**

S. Okutani, N. Kamiura, H. Sano, T, Sawatani, D. Fujita, T. Takehara, K. Sunohara, M. Kobayashi
Toshiba Matsushita Display Technology Co., Ltd., Ishikawa, Japan

N. Ibaraki
Toshiba Matsuchita Display Technology Co. Ltd., Tokyo, Japan

A novel structure for the top-emission OLED structure, which integrates the scattering reflector with micro-bumps into the substrate, is reported. The mechanisms of light extraction were investigated by evaluating the dependency of the flux on the shape of the micro-bumps. A scattering reflector applied to a 20.8-in. WXGA full-color AMOLED display has been demonstrated.

AUTHOR INTERVIEWS **(3:20–4:20)**