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**WHITE OLEDs II**

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**Wednesday, May 23 / 10:40 am – 12:00 pm / Ballroom B****Chair:****Tariq A. Ali**, *eMagin Corp., Bellevue, WA, U.S.A.***Co-Chair:****Heinrich Becker**, *Merck OLED Materials GmbH, Frankfurt, Germany***25.1: Invited Paper: Challenges of Using Organic Light-Emitting Devices as White-Light Sources (10:40)***S. Forrest**University of Michigan, Ann Arbor, MI, U.S.A.*

A significant challenge facing human kind today is how to address the ever-decreasing supply of energy. OLEDs provide a unique opportunity to provide high-efficiency solid-state lighting at low cost on flexible substrates. Several strategies for achieving very-high-efficiency (>50 lm/W) white-light emission at high brightnesses for next-generation lighting sources will be discussed.

**25.2: Achieving Three-Peak White Organic Light-Emitting Devices Using Wavelength-Selective Mirror Electrodes (11:00)***Y-J. Lu, C-L. Lin, C-H. Chang, C-C. Wu**National Taiwan University, Taipei, Taiwan, ROC*

An effective approach based on wavelength-selective mirrors has been developed to implement three-peak WOLEDs that have EL spectra that better match the transmission spectra of typical color filters, thus providing a much-enhanced color gamut for full-color OLED-display applications. The wavelength-selective mirror used is highly compatible with OLED fabrication.

**25.3: Highly Efficient White Organic Light-Emitting Devices (11:20)***M-F. Lin, L. Wang, W-K. Wong, K-W. Cheah, H-L. Tam**Hong Kong Baptist University, Hong Kong**M-T. Lee, M-H. Ho, C. Chen**National Chiao Tung University, Hsinchu, Taiwan, ROC*

A highly efficient two-color-emission white OLED with a novel sky-blue dopant has been introduced. The device achieved an EL efficiency of 17.1 cd/A and a luminance efficiency of 7.9 lm/W at 20 mA/cm<sup>2</sup> with CIE coordinates of (x = 0.29, y = 0.41). The white OLEDs reached a lifetime above 40,000 hours at an initial luminance of 300 cd/m<sup>2</sup>.

**25.4: Advances and Issues in White OLEDs and Color-Filter Architecture (11:40)***C. Chu, J-K. Ha, J-H. Choi, S-S. Lee, J-S. Rhee, D-W. Lee,**J-K. Chung, H-S. Kim, K. Chung**Samsung Electronics Co., Ltd., Kyunggi-do, Korea*

Because the scalability of the OLED process is a crucial factor for TV application, a white OLED with a color filter has been developed for large-sized AMOLED panels. Here, the concerns for large panels and how far the OLED technologies need to be developed in order for them to enter the marketplace for large-sized displays will be discussed.

**LUNCH****(12:00–2:15)****AUTHOR INTERVIEWS****(6:30–7:30)**