
ELECTRONIC PAPER

Thursday, May 24 / 10:40 am - 12:00 pm / Room 104BC

Chair:

Robert W. Zehner, E Ink Corp., Cambridge, MA, U.S.A.

Co-Chair:

Paul Drzaic, Drzaic Consulting Services, Morgan Hill, CA, U.S.A.

**45.1: Invited Paper: Ultra-Thin and Flexible LSI-Driver (10:40)
Mounted E-Paper Display Using Quick-Response Liquid-Powder Technology***R. Sakurai, I. Tanuma, A. Yokoo, N. Nihei, Y. Masuda
Bridgestone Corp., Kodaira, Japan**R. Hattori, M. Asakawa, T. Nakashima
Kyushu University, Fukuoka, Japan*

A flexible-plastic-circuit-mounted LSI display driver with a thickness less than 40 μm was bonded to a plastic-substrate quick-response liquid-powder display (QR-LPD). The mounted driver maintains physical flexibility without connection failures or significant degradation in driving performance. The resulting display module achieves the goal of a fully flexible electronic-paper display.

45.2: Reflective Electronic-Paper Display Utilizing Electric Polarized Particle Chains (11:00)*C-P. Chiu, P-W. Huang, S-K. Fan, J-H. Wei, W-S. Hsu
National Chiao Tung University, Hsinchu, Taiwan, ROC*

A novel display technique has been demonstrated by applying an ac field to the polarizable microparticles dispersed in liquid solution. The polarized particles attract each other and form particle chains along the field lines. As a result, the light transmittance of the liquid can be regulated as a reflective display.

45.3: Electrochromic Systems for Flexible Displays (11:20)*R. Wagner, G. Rieger, R. Weiss, W. Roth, A. Kanitz,
M. Herr
Siemens AG, Erlangen, Germany*

Novel electrochromic materials, which show several benefits including high contrast at high viewing angles and extremely low power consumption, have been developed. The stability and overall performance of the device are affected both by the materials formulation and by electrode-electrochromic interactions. Lifetime results, electro-optic data, and the performance of customized waveforms will be discussed.

45.4: Azo-Dye LC Alignment for Displays and Photonics (11:40)

*V. G. Chigrinov, H. S. Kwok
Hong Kong University of Science & Technology, Kowloon,
Hong Kong*

*H. Takada, H. Takatsu, H. Hasebe
Dai Nippon Ink and Chemicals Inc., Tokyo, Japan*

Azo-dye photoalignment of liquid-crystal films can be used to generate a variety of 2-D and 3-D structures. Results of photoalignment on plastic substrates, inside microtubes, and as cladding layers on optical waveguides and grating surfaces, will be presented. Construction of photoaligned polarizers, phase retarders, and optically rewritable LCDs will also be discussed.

LUNCH (12:00–2:00)

AUTHOR INTERVIEWS (5:00–6:00)