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**LC-BASED E-PAPER**

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Thursday, May 24 / 9:00 10:40 am / Room 104BC

**Chair:**

Terry Scheffer, Mtif, Inc., Hilo, HI, U.S.A.

**Co-Chair:**

Karl Amundson, E Ink Corp., Cambridge, MA, U.S.A.

**40.1: Invited Paper: The Zenithal Bistable Display from Concept to Consumer (9:00)**

*J. C. Jones*  
*ZBD Displays, Ltd., Malvern, Worcs, U.K.*

Zenithal bistable LCDs use a grating alignment layer designed to give bistability with an otherwise standard twisted-nematic display. Although the grating design can include complex structures, the manufacturing remains simple and low cost. The latest performance of devices used for electronic point-of-purchase in the retail sector will be described.

**40.2: Invited Paper: Update of New Developments and Applications for BiNem® Displays (9:20)**

*J. Angelé, D. Stoenescu, I. Dozov, J. Osterman,*  
*J-D, Laffitte, T. Emeraud, F. Leblanc*  
*NEMOPTIC, Magny-les-Hameaux, France*

Results on a new alignment material having high azimuthal and low zenithal anchoring energies that show no after-image effects will be discussed. A partial image-refreshing driving mode to improve the response time of BiNem displays will also be described. New applications include display modules designed for e-dictionaries and electronic shelf labels.

**40.3: Nanoparticle-Embedded PDLC for Wide Viewing Angle and Specular Glare Suppression (9:40)**

*A. Masutani, T. Roberts, B. Schüller, N. Hoffelder,*  
*P. Kilickiran, G. Nelles, A. Sakaigawa, A. Yasuda*  
*Sony Deutschland GmbH, Stuttgart, Germany*

A polymer-dispersed liquid-crystal matrix template embedded with nano/microparticles can be backfilled/infiltrated with dye-doped liquid crystal for a paper-like reflective display. In this way, a desirable degree of diffusion can be realized to reduce a diffuse reflector's viewing-angle dependency and metallic glare, without changing other electro-optical properties.

**40.4: An Electrophoretic LCD: Switching with Threshold and Video Rate (10:00)**

*D. Sikharulidze*  
*Hewlett-Packard Laboratories, Bristol, U.K.*

A video-rate electrophoretic display comprised of a suspension of pigments in a liquid crystal has been developed. This system exhibits switching with threshold, permitting low-cost passive-matrix addressing. The anisotropy of the dielectric constant of the liquid crystal is responsible for this unusual electrophoretic switching.

**40.5: Invited Paper: Super-Reflective Color LCD with PDLC Technology (10:20)**

*K. Minoura  
Sharp Corp., Nara, Japan*

A novel reflective color LCD without polarizers has been developed by using a PDLC and retro-reflector. Bright images including moving images are available by utilizing ambient light. This novel LCD will create a new application area such as electronic paper.

**BREAK (10:40–10:50)**

**AUTHOR INTERVIEWS (5:00–6:00)**