# ADVANCED PROJECTION SYSTEMS

**Tuesday, May 22 / 10:50 am – 12:20 pm / Room 102**

**Chair:**
**Robert L. Melcher,** *Syntax Brillian Corp., Tempe, AZ, U.S.A.*

**Co-Chair:**
**Frederic J. Kahn,** *Kahn International, Palo Alto, CA, U.S.A.*

**3.1: MOEMS Laser Projector for Handheld Devices Featuring Motion Compensation (10:50)**

*H. Grüger, A. Heberer, C. Gerwig, P. Nauber, H. Lakner, Fraunhofer IPMS, Dresden, Germany*

Laser projection has been realized by use of a 2-D micromechanical scanner mirror. For handheld devices, compensation of motion is required. This can be realized by using inertial sensors for motion detection and implementing compensation algorithms. The projector must provide sufficient dynamic range for the compensation.

**3.2: High-Dynamic-Range Projection Systems (11:10)**

*H. Seetzen*
*University of British Columbia and BrightSide Technologies, Inc., Vancouver, British Columbia, Canada*

*W. Heidrich, L. Whitehead*
*University of British Columbia, Vancouver, British Columbia, Canada*

*G. Damberg, G. Ward*
*BrightSide Technologies by Dolby, Vancouver, British Columbia, Canada*

Home-theater and digital-cinema applications need to compete with analog film in terms of image quality. The largest gap in that competition is the relatively low dynamic range of the luminance of digital projectors. A digital projection system capable of displaying images with a high dynamic range to rival analog film has been introduced.

**3.3: *Invited Paper:* 20-Mpixel MEMS-Based Laser Projector (11:30)**

*D. M. Bloom*
*ALCES Technology, Inc., Jackson, WY, U.S.A.*

*A. Tanner*
*Evans & Sutherland Computer Corp., Salt Lake City, UT, U.S.A.*

A new projection system which takes advantage of a microelectromechanical systems (MEMS) based grating light-modulator (GLM) technology will be described. The GLM provides a significant advantage over other technologies used in laser-projection systems. Other systems use a single laser beam scanned in a raster-type manner which limits the resolution which can be obtained.

**3.4:** ***Invited Paper:*** **Laser TV: Ultra-Wide Color Gamut in Conformity with xvYCC** **(11:50)**

*H. Sugiura*
*Mitsubishi Electric Corp., Kyoto, Japan*

The Laser TV is an HDTV that uses semiconductor lasers involving three primary colors -- red, green, and blue -- for the light source. The laser light source helped realize an HDTV with a dramatically wide color gamut, namely, 190%; the color gamut of ITR-U BT.709. In addition, an LSI that can deal with extended color space xvYCC, which is a new international standard and mounted the LSI in the HDTV has been developed.

**3.5L:** ***Late-News Paper:*** **RGB Laser for Mobile Projection Devices** **(12:10)**

*U. Steegmuller, M. Kühnelt, H. Unold, T. Schwarz, R. Schulz, F. Singer*
*OSRAM Opto Semiconductors, Regensburg, Germany*

Recent advances in small-form-factor lasers for mobile projection devices will be discussed. Based on semiconductor solutions, efficient and very compact full-color laser modules are suitable both for imager- and scanning-beam-type laser projection systems.

**LUNCH** **(12:20–2:00)**

**AUTHOR INTERVIEWS** **(3:20–4:20)**