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Liquid crystal display and photonics devices: New trends

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Liquid Crystal (LC) devices for displays and photonics are dominating in the market and will be the basic technology for advanced display and electronics in the nearest 10 years. Photoalignment materials can be effectively used in LC alignment and patterning for new generations of LC devices that provide extremely high resolution and optical quality of alignment both in glass and plastic substrates, photonics holes, etc. New liquid crystal devices include ORW E-paper, field sequential color Ferroelectric Liquid Crystal (FLC) projectors, photo-patterned quantum rods and 100% polarizers, q-plates, sensors, switchable lenses, windows with voltage controllable transparency, security films and switchable antennas.

Biography

Vladimir G Chigrinov has obtained his PhD degree in Solid State Physics (Liquid Crystals) in the Institute of Crystallography, USSR Academy of Sciences in 1978. In 1988, he became a Doctor of Physical and Mathematical Science and obtained a degree of a Professor in 1998. Since 1973, he was a Senior Leading Researcher and then Chief of Department in Organic Intermediates & Dyes Institute (NIOPIK). He has worked as a Leading Scientist in the Institute of Crystallography, Russian Academy of Sciences and joined HKUST in 1999, as an Associate Professor. He is a Member of Editorial Board of *Liquid Crystals Today* since 1996 and Associate Editor of *Journal of SID* since 2005. He is an author of 6 books, 15 reviews and book chapters, 281 journal papers, 617 conference presentations and 112 patents and patent applications, including 28 US patents in the field of liquid crystals. His research interests include computer modeling of various electrooptical effects in liquid crystals, photo-aligning technique for LCD applications, LC devices in fiber optics and fast multistable ferroelectric liquid crystal devices.

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