



INTERNATIONAL Convention on Colorants - 2007



ABSTRACT

Session 4: Paper 1

PHOTOCHROMIC MATERIALS FOR FLUORESCENT SWITCH AND DATA STORAGE

He Tian, *East China University of Science & Technology*

Photochromic materials are potentially useful for advanced optoelectronic devices such as optical memory, optical switching, and displays. Among the various molecular memory systems, bistable photo-switching of fluorescence emission is considered to be a promising signaling mode, not only because the fluorescence signals can be readily and sensitively recognized, but also because the small number of photons required for their excitation induce few side effects to spoil the digitalized signals.

Some new photochromic fluorescent materials have been synthesized in laboratory and exhibit good photochromic properties, especially high fluorescent quantum efficiency and excellent fatigue resistance, which are promised to application all photon-mode memory media (e.g. 3-D two-photon data storage) and fluorescent molecular switch.

Prof. He Tian received his Ph. D. degree in 1989 from East China University of Science & Technology (ECUST) (Shanghai, China).

From 1991 to 1993 and in 2000, Dr. Tian did research on organic functional materials twice in Germany both supported by Alexander von Humboldt Foundation. Dr. Tian became a full professor and director of the Institute of Fine Chemicals at ECUST in 1994. In 1999, he was appointed Cheung Kong Distinguished Professor by the Education Ministry of China.



His current research interests include the syntheses of novel functional organic dyes or copolymers and the development of interdisciplinary materials science that determines the electronic and optical properties of the materials. Prof. Tian has published over 180 papers in international journals and four academic books (in Chinese). He has also been awarded 28 Chinese patents.