**From Liquid Crystal Photonics to Soft Mattonics**

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Starting from the unique physical properties of liquid crystal materials and the development trend of planar optics, this report intends to explore how to construct one-dimensional, two-dimensional and even three-dimensional photonic micro-structures and topologies in liquid crystals based on the "top-down" structured photo alignment and "bottom-up" molecular layer self-assembly. Efficient, multi-dimensional generation, processing and detection of light fields in different wavelengths has been achieved from visible to terahertz band, showing many promising applications in optical communications, sensing, imaging and even computing. We will further look forward to the basic connotation, new applications and development prospects of softmatter photonics (Soft Mattonics) based on liquid crystals, silk proteins and other soft materials.

**Short Bio:**

**Yanqing Lu** received both his BS and Ph.D. degrees from Physics department, Nanjing University, China, in 1991 and 1996 respectively. Then he stayed in the same University as a lecture (1996) and associate professor (1998). He worked in Academia and Industry in the United States from 2000 to 2006, where he developed a serial of liquid crystal based fiber-optic devices with his colleagues in Chorum Tech., CREOL, UCF and EZconn. Corp. He is currently a Changjiang distinguished professor at Nanjing University and a Fellow of Optica, Fellow of COS (Chinese Optical Society) and Fellow of CSOE (Chinese Society for Optical Engineering). He currently serves as the director of Chinese Liquid Crystal Society, the executive editor-in-chief for *Chinese Optics Letters*. His research interests include liquid crystal photonics, nanophotonics and nonlinear optics. He is the author or co-author of over 250 peer-reviewed papers in *Science*, *Sci. Adv.*, *Nature Nano.*, *Nature Comm.*, *PNAS*, *PRL*, *Light Sci. Appl.* etc. He also holds more than 70 domestic or international patents or pending patents.