

SUSTAINABLE POLYMER AND PROCESS CHEMISTRY (SMART) SEMINARS

Venerdì, 21 Novembre 2025, ore 15:00, AULA 1



Light-Responsive Materials: Our Recent Research

Quan Li

Institute of Advanced Materials, Southeast University,
Nanjing, China

E-mail: quanli3273@gmail.com

<http://www.quanlilab.com>

Abstract

Light offers unparalleled spatiotemporal control over matter. In my talk, I will present our recent research and breakthroughs in light-responsive materials. In particular, I will introduce light-controlled molecular machines, photo-modulated chirality, and their applications spanning adaptive camouflage, reconfigurable optics, smart display, and novel phototherapy. Our work not only reveals the inherent beauty of light-matter interactions at the nanoscale and beyond but also paves the way for transformative technologies in dynamic photonics, soft robotics, phototherapeutics, and energy solutions. Furthermore, the opportunities and challenges facing the field will be discussed.

Biography

Quan Li is Distinguished Chair Professor and Founding Director of Institute of Advanced Materials at Southeast University, China. He is the Honorary Editor-in-Chief of "*Chinese Journal of Liquid Crystals and Displays*", the founding Editor-in-Chief of Wiley "*Responsive Materials*", an editor of Springer Nature "*Light: Science & Applications*" etc. Li held appointments in USA, Germany, and France. He received his Ph.D. from the Chinese Academy of Sciences in Shanghai, where he was promoted to the youngest Full Professor in February 1998. Li was Alexander von Humboldt Fellow in Germany. He has won Kent State University Outstanding Research and Scholarship award. He is a Fellow of the Royal Society of Chemistry (FRSC). He has been elected as a member of European Academy of Sciences and a member of European Academy of Sciences and Arts. He has also been honored as Professor and Chair Professor at over ten universities. Li has been listed as a Highly Cited Researcher by Clarivate and Elsevier. In the past decade, he has edited eight books (2 Wiley-VCH, 2 Wiley, and 4 Springer books), and has co-authored 40 chapters including the invited author of the entry entitled "*Liquid Crystals*" in the prestigious Kirk-Othmer Encyclopedia. Li's current research interest spans from stimuli-responsive smart soft matter, advanced photonics, and optoelectronic materials for energy harvesting and energy saving to functional nanoparticles, biomedical materials, and theranostic agents to nanoengineering and device fabrication.

To find out how to reach the Department, go to <http://www.chimica.unige.it/en/department/getting-here>.
For further information on this specific seminar, please contact Prof. Davide Comoretto, room 822, tel +39 010 3538736 e-mail: davide.comoretto@unige.it

SUSTAINABLE POLYMER AND PROCESS CHEMISTRY (SMART) SEMINARS

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Polarization Volume Gratings (PVG) Based Waveguide Display

Director of Display R&D Institute, Southeast University,
Nanjing, China

Prof. Yuling Zhang

Email: zyn@seu.edu.cn

<https://electronic.seu.edu.cn>

Abstract

His abstract: A retrospective analysis of the generational development of display technology is presented, discussing the visual cognitive requirements and the current trends in display technology development under the guidance of the dual carbon goals. The research progress of polarization volume grating (PVG) based waveguide AR display technology is highlighted.

Biography

Dr. Yuning Zhang is associate professor and master tutor for School of Electronic Science and Engineering, Southeast University. Yuning Zhang received his B.S., M.S., and PhD degrees from the School of Electronic Science and Engineering, Southeast University of China, in 2003, 2005, and 2008 respectively. In 2009 he was supported by the EU 7th framework Programme "Marie Curie People Action", and worked at Philips Research Europe (Eindhoven, the Netherlands), from October 2009 to September 2011; worked at Philips Research Asia (Shanghai China), from October 2011 to December 2012, as a Marie Curie scholars (Marie Curie International Incoming Fellow). Since April 2013, Dr Zhang is an associate professor at southeast university and Since January 2015 Zhang has been deputy director of a Display R&D Center, Southeast University.

Dr Zhang has been teaching "Signals and Systems" and "optics application and practice" for School of Electronic Science and Engineering Southeast University. He won the second prize of National Universities Micro Teaching Competition and the first prize in Jiangsu division.

Dr. Zhang is mainly engaged in the research and development work for "DISPLAY" and "LIGHTING", and their new technology, new devices, and related human-computer interaction and visual perception. He specializes in display and lighting for their color management, optical design, and its influence on visual physiological and psychological research.