

### 國立清華大學光電工程研究所 Institute of Photonics Technologies,NTHU

# **Optoelectronics Soft-Matter Laboratory**



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**Experience:** 

Oct. 2009 – Sep. 2015, Department Director/Chief Technical Research Fellow, Materials & Energy Technology Laboratories, Sharp Labs of Tokyo, Japan.

Oct. 2002 – Sep. 2009, Senior Research Scientist Fellow, Hitachi Displays, Ltd., Japan

- Oct. 2004 Mar. 2008, Research Scientist Fellow, Japan Science & Technology Agency, SORST: Solution Oriented Research for Science and Technology, Liquid Crystal Nanosystem Project, Tsukuba, Japan
- Feb. 2002 Sep. 2004, Research Scientist Fellow, Japan Science & Technology Agency, ERATO:
  Exploratory Research for Advanced Technology, Yokoyama Nano-structured
  Liquid Crystal Project, Tsukuba, Japan

Mar. 1996 – Sep. 2002, Senior Research Scientist Fellow, Display Group of Hitachi Ltd., Japan April 1989 – Feb. 1996, Research Scientist Fellow, Hitachi Research Laboratory, Hitachi Ltd., Japan **Others (During the career above):** 

Oct. 2006 – Sep. 2009, Adjunct Professor, Department of Physics, Sogang University, Korea Sep. 2005 – Dec. 2005, Visiting Research Fellow, FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands

Nov. 1998 – Oct. 2000

and June 2001~July 2001, Visiting Research Fellow, Department of Physics, University of California, Berkeley, USA

#### **Education:**

March 1998, PhD, Department of Chemistry, Tokyo Institute of Technology, Japan April 1987~March 1989, MS, Department of Chemistry, Tokyo Institute of Technology, Japan April 1983~March 1987, BS, Department of Chemistry, Tohoku University, Japan

研究領域和重點

Organic Optoelectronic Materials: Liquid crystal display (LCD) related materials and devices, Organic light emitting diode (OLED) related materials and devices Soft-matter Optical Spectroscopy: Surface nonlinear optical spectroscopy, Sum-frequency generation spectroscopy as a probe for molecular orientation



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# Organic Optoelectronics Materials & Soft-matter Optical Spectroscopy

1. Organic Optoelectronic Materials: Liquid crystal display (LCD) related materials and devices, Organic light emitting diode (OLED) related materials and devices Donor(D) Acceptor(A)







2. Soft-matter Optical Spectroscopy: Surface nonlinear optical spectroscopy, Sum-frequency generation spectroscopy as a probe for molecular orientations



 Features of the laboratory:
 Molecular alignment and orientation in organic thin films using linear and nonlinear optics.
 Fabrication of thin films controlling molecular alignment for next generation optoelectronics.
 Liquid crystal phase shifter for THz.

If you are interested in materials and molecules, why don't you join us!!