

# LIKUI WANG

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## Work Experience

**Associate Professor**    **Jiangnan University**    Aug 2012-present  
Dept of Materials Science & Engineering (School of Chemical & Materials Engineering)

- Application of conducting polymer inverse opals as electrode materials for DSSC
- Synthesis of conducting polymer materials, their carbonization and applications in supercapacitors
- Particle engineering through phase separation during emulsion polymerization

**Study Manager**    **Essilor Singapore R&D Center**    Jul 2008 – Mar 2010  
(Essilor is the world No. 1 in spectacle lens industry)

- Leading a team to develop new types of hardcoat and antireflection coating for spectacle lens
  - The development of tinting technologies for high refractive index lenses
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## Education

**Ph. D.**    **National University of Singapore**    Aug 2004 - Jul 2008  
Chemical & Biomolecular Engineering    Supervisor: Xiu Song Zhao

- Research topics:
  - ◇ Self-assembly of colloidal spheres and fabrication of photonic crystals
  - ◇ Synthesis of various types of inorganic and polymeric submicron spheres (silica, PS, PMMA, PS-Titania core-shell, carbon), nonspherical particles
- Thesis Title: Fabrication of 3D photonic crystals using self-assembled colloid spheres as templates

**M. Eng.**    **Zhengzhou University**    Sep 1999 - Jul 2002  
Industrial Catalysis    Supervisor: Limin Li

- Thesis Title: Study on spherical  $Fe_{1-x}O$ -based catalysts for ammonia synthesis

**B. S.**    **Zhengzhou University**    Sep 1995 - Jul 1999  
Chemical Engineering

## Lab Visiting

<b>Max Planck Institute for Polymer Research (Mainz, Germany)</b>	May 1 – Jun 14, 2007
Project: Binary Colloidal Crystal	Prof Wolfgang Knoll
<b>Centre de Recherche Paul Pascal, CNRS (Bordeaux, France)</b>	Jun 16-Jul 30, 2007
Project: Patterning of the microsphere surface	Prof Serge Ravaine

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## Publications

1. Synthesis of polypyrrole inverse opals through an air-water interface polymerization method and their application in dye-sensitized solar cells. L. Deng, L. Wang,\* Y. Li, G. Shi, Y. Liu, B. Yao,\* *Macromol. Chem. Phys.* 2018, 219, 1700489.
2. Flexible lignin-derived electrospun carbon nanofiber mats as a highly efficient and binder-free counter electrode for dye-sensitized solar cells. Ying Zhao, Yun Liu, Biyao Geng, Jing Ru, Congcong Tong, Hongzhi Liu\*, Likui Wang\*, *J. Mater. Sci.* 2018, 53, 7637.
3. Synthesis of SiOH-functionalized composite particles with buckled surface by seeded emulsion polymerization. L. Wang,\* H. Li, G. Shi, J. Hong, Z. Chen, C. Jin, C. Sun, B. Yao,\* *Colloid Polym. Sci.* 2017, 295, 471.
4. Asymmetric deformation of swollen microspheres on a water surface. L. Wang,\* L. Deng, F. Kang, B. Yao, Y. Li, *RSC Adv.*, 2016, 6, 50368.
5. Functional polyaniline-assisted decoration of polystyrene microspheres with noble metal nanoparticles and their enhanced catalytic properties. Y. Li,\* Y. Hu, S. Ye, Y. Wu, C. Yang, L. Wang,\* *New J. Chem.* 2016, 40, 10398.
6. Synthesis of Janus Particle Arrays and Janus Films through an Interfacial Polymerization Method. L. Wang,\* F. Kang, G. Shi, C. Jin, H. Li, H. Liu, B. Yao,\* *Russian J. Phy. Chem.* 2018, 92, 778.
7. Binary colloidal crystals fabricated with a horizontal deposition method. L. Wang, Y. Wan, Y. Li, Z. Cai, H. L. Li, X. S. Zhao,\* Q. Li,\* *Langmuir* 2009, 25, 6753.
8. Patterning the surface of submicron spheres and fabrication of nonspherical particles. L. Wang, L. Xia, G. Li, S. Ravaine, X. S. Zhao,\* *Angew. Chem. Int. Ed* 2008, 47, 4725. (a **Very Important Paper**).
9. Fabrication of crack-free colloidal crystals using a modified vertical deposition method. L. Wang, X. S. Zhao,\* *J. Phys. Chem. C* 2007, 111, 8538.
10. Fabrication of free-standing non-close-packed opal films. L. Wang, Q. Yan, X. S. Zhao,\* *J. Mat. Chem.* 2006, 16, 4598.
11. From planar defect in opal to planar defect in inverse opal. L. Wang, Q. Yan, X. S. Zhao,\* *Langmuir* 2006, 22, 3481.
12. Artificial defect engineering in three-dimensional colloidal photonic crystals. Q. Yan, L. Wang, X. S. Zhao,\* *Adv. Funct. Mater.* 2007, 17, 3695.
13. Preparation and characterization of SiO<sub>2</sub>/TiO<sub>2</sub>-Pt core/shell nanostructures and evaluation of their photocatalytic activity. G. Li, L. Wang, L. Lv, X. S. Zhao,\* *J. Nanosci. Nanotechnol.* 2009, 9, 177.
14. Drilling nanoholes in colloidal spheres by selective etching. Q. Yan, F. Liu, L. Wang, J. Y.

- Lee, X. S. Zhao,\* *J. Mat. Chem.* 2006, 16, 2132.
15. Hollow carbon spheres with a controllable shell structure. F. Su, X. S. Zhao,\* Y. Wang, L. Wang, J. Y. Lee, *J. Mat. Chem.* 2006, 16, 4413.
  16. Copolymer-controlled homogeneous precipitation for the synthesis of porous microfibers of alumina. P. Bai, F. Su, P. Wu, L. Wang, F. Lee, L. Lv, Z. Yan, X. S. Zhao,\* *Langmuir* 2007, 23, 4599.
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## Patents

1. Method for dyeing a plastic substrate of high refractive index and substrate obtained by this method, Y. Liu, L. Song, Y. C. Lim, L. Wang, EP2319981A1, 2011. 11. 05.
  2. An TiO<sub>2</sub> inverse opal without overlayer. L. Wang, Y. Wang, L. Deng, G. Shi, B. Yao, ZL201611223989.8. 2017.11.28
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## Research Interests

- The synthesis of porous conducting polymer materials
- The carbonization of conducting polymers and microporous organic polymers, and their application in energy conversion and storage
- The synthesis of nonspherical particles and their self-assembly