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Reader in Nanoscale Science

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About

Dr. Ziyou Li is a Reader in the Nanoscale Physics Research Laboratory, School of Physics and Astronomy. Her current research is focused on 3D atomic structures of nanoclusters and nanoalloys.

Qualifications

Reader in Nanoscale Science:

- Member of the Institute of Physics
- PhD in Physics (Cambridge) 1989
- BSc in Physics (Fudan) 1982

Biography

Ziyou Li obtained her first degree in physics (1982) in Fudan University, China and PhD in physics (1989) at St. Johns College and Cavendish Laboratory, University of Cambridge, U.K.

She then worked as a postdoctoral researcher in the Interdisciplinary Research Centre in Surface Science, University of Liverpool, before returning to Cambridge, where she held her prestigious EPSRC Advanced Research Fellowship at Cavendish Laboratory and Research Fellowship in Hughes Hall.

Ziyou joined University of Birmingham from 2001 as a lecturer and is now a Senior Lecturer in physics in the School of Physics and Astronomy.

Teaching

Teaching Programmes

Academic year 2011/12:

- Y1 academic tutorials
- Y2 Electrons in Solids
- Y4 Project supervisions

Academic years 2001-2010:

- Y1 Communications and skills
- Y1 Academic Tutorial
- Y2 Electrical Measurements Laboratory
- Y3 Nanoscale Physics
- Y3 Condensed Matter Physics Laboratory (in charge)
- Y3/Y4 Atomic Physics
- Y4 Frontiers of Nanoscience
- Y4 Project supervision

Postgraduate supervision

- Supervision of PhD students in nanophysics and 3D atomic-scale structures of nanoclusters and nanoalloys

Research

RESEARCH THEMES

- Atomic-scale structures of nanoclusters and nanoalloys

- Quantitative scanning transmission electron microscopy
- Nanoplasmonics
- Surface science

RESEARCH ACTIVITY

Current funded research activity:

- Principal Investigator (2010-2014): “Towards an atomic-scale understanding of the 3D structures of size-selected clusters on surface” funded by EPSRC (EP/G070326/1) with R.E. Palmer, R.L. Johnston, J. Yuan
- Co-Investigator (2010-2014): “Environmental behaviour, bioavailability and effects of manufactured nanomaterials”, Joint UK-US research program, by NERC (NE/H013148/1), with J. Lead (PI), J. Chipman, M. Viant, R.E. Palmer
- Participant (2010-2014): “Nanoalloys: from structure to properties and applications”, funded by COST Action (MP903) – European Co-Operation in the filed of Scientific and Technical Research. R. Ferrando (PI)
- Co-Investigator (2007-2011): “Materials Program Platform Grant: Nanostructured Surface”, funded by EPSRC (EP/E005918/1). R.E. Palmer (PI), APG Robinson, Q. Guo, A. Kaplan

Other activities

- Committee Member (Co-opted) of British Vacuum Council (since 2010), as IUVSTA Surface Science Divisional Representative for Great Britain
- Committee Member (Co-opted) of Electron Microscopy and Analysis Group, Institute of Physics (since 2009)
- Committee Member of Nanoscale Physics and Technology Group, Institute of Physics (2005-2008)

Publications

Selected publications (since 2008-)

- **Z.Y. Li** * , N. P. Young, M. Di Vece, S. Palomba, R.E. Palmer, A. L. Bleloch, B.C. Curley, R.L. Johnston, J. Jiang, J. Yuan (2008) “Three-dimensional atomic-scale structure of size-selected gold nanoclusters”, ***Nature*** 46:46-48
- N.Y. Young, **Z.Y. Li** * , Y. Chen, S. Paloma, M. Di Vece, R.E. Palmer (2008) “Weighing supported Nanoparticles: size-selected clusters as mass standards in nanometrology”, ***Phys. Rev. Lett.*** 101**:** 246103 [Highlighted in ***Nature Nanotechnology*** 4 (2009) 76, “Nanoparticles: Gold Standard”]
- J.E. Allen, E.R. Hemesath, D.E. Perea, J.L. Lensch-Falk, **Z.Y. Li**, F. Yin, M.H. Gass, P.Wang, A.L. Bleloch, R.E. Palmer, L.J. Lauhon (2008) “Detection of gold atoms in VLS-grown silicon nanowires”, ***Nature Nanotechnology*** 3:168-173
- **Z.Y. Li** * , J.P. Wilcoxon, F. Yin, Y. Chen, R.E. Palmer, R.L. Johnston (2008) “Structures and optical properties of 4-5 nm bimetallic AgAu nanoparticles”, ***Faraday Discussion*** 138:363-373 (Selected as Hot Articles by the Journal)
- Z.W. Wang, **Z.Y. Li** * (2009) “Structure and energetics of indium-catalyzed Si nanowires”, ***Nano Lett.***, 9:1467-1471
- C. Langlois, Z.W. Wang, D. Pearmain, C. Ricolleau, **Z.Y. Li** * (2010) “HAADF-STEM imaging of CuAg core-shell nanoparticles”, ***J. Phys: Conf. Ser.*** 241**:**012043
- Z.W. Wang, O. Toikkanen, F. Yin, **Z.Y. Li**, B. Quinn, R.E. Palmer (2010) “Counting the atoms in supported, monolayer-protected gold clusters” ***J. Am. Chem***