

Name : Lihua Zhang

Position Title: Material Science Associate

Education

1998- 2002 PhD	Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China.	Trans. Elec. Microscopy
1995-1998, Master	Shenyang Polytechnic University, Shenyang, China.	Materials Science
1991-1995, Bachelor	Shenyang Polytechnic University, Shenyang, China.	Materials Science

Work experiences:

01/2005 — present	Materials Science Associate, Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY 11973
01/2003 — 01/2005	Postdoctoral Research fellow, National Center for Electron Microscopy, Lawrence Berkeley National Laboratory, Berkeley, CA 94720
06/2002 — 12/2002	Postdoctoral Research fellow, Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China.

Selected Recent Publications:

1. K.Sasaki, **L.H. Zhang**, R.R. Adzic, “Niobium Oxide-Supported Platinum Ultra-Low Amount Electrocatalysts for Oxygen Reduction”, *Physical Chemistry Chemical Physics*. **10**, 159-167 (2008).
2. H.L. Chen, **L.H. Zhang**, C.P. Grey, “Structure and high rate electrochemical property Li₅Co₃O₈--a novel layered lithium metal oxide as cathode for lithium ion batteries” *Journal of the electrochemical society*, in press (2008).
3. H. Chen, G. Wang, M. Dudley, J. Edgar, **L.H. Zhang** and Y. Zhu, “Characterization of B12As₂ Epitaxial Layers Grown on (0001)6H-SiC and (11-20)6H-SiC Substrates”, *Journal of Applied Physics*, revised (2007).
4. J. Pike, **L. H. Zhang**, J. Hanson, S.-W. Chan, “Synthesis and Redox Behavior of Nanocrystalline Hausmannite”, *Chemistry of Materials*, **19**, 5606-5616(2007).
5. M. Shao, K. Sasaki, N. S. Marinkovic, **L.H.Zhang**, R. R. Adzi. “Synthesis and characterization of Platinum monolayer Oxygen-reduction electrocatalysts with Co-Pd core-shell nanoparticle supports”, *Electrochemistry Communications*, **9**, 2848-2853 (2007).
6. Y. Sun, **L.H. Zhang**, H. Zhou, Y. Zhu, E. Sutter, Y. Ji, M. H. Rafailovich, and J. C. Sokolov, “Seedless and templateless synthesis of rectangular palladium nanoparticles”, *Chemistry of Materials*, **19**, 2065-2070(2007).
7. G. Wang, Y. Ji, **L.H. Zhang**, Y. Zhu, P.-I. Gouma, and M. Dudley, “Synthesis of molybdenum oxide nanoplatelets during crystallization of the precursor gel from its hybrid nanocomposites”, *Chemistry of Materials*, **19 (5)**, 979-981(2007).
8. Y. Sun, A. I. Frenkel, H. White, **L.H. Zhang**, Y. Zhu, H. Xu, J. C. Yang, T. Koga, V. Zaitsev, M. H. Rafailovich, and J. C. Sokolov, “Comparison of decanethiolate gold nanoparticles synthesized by one-phase and two-phase methods”, *J. Phys. Chem. B*, **110 (46)**, 23022-23030 (2006).
9. Y. Sun, A. I. Frenkel, R. Isseroff, C. Shonbrun, M. Forman, K. Shi, T. Koga, H. White, **L.H. Zhang**, Y. Zhu, M. H. Rafailovich, and J. C. Sokolov, “Characterization of Palladium nanoparticles by using X-ray reflectivity, EXAFS and electron microscopy”, *Langmuir*, **22**, 807-816(2006).

10. L. Zhang, **L. H. Zhang**, M. L. Sui, J. Tan, and K. Lu, “Superheating and melting kinetics of confined thin films”, *Acta Mater.*, **54**, 3553-3560 (2006).
11. **L. H. Zhang**, E. Johnson, U. Dahmen, “Observation of the vacancy decay of the elastic strain caused by phase transformation of small Pb inclusions in Al”, *Acta Mater.*, **53**, 3635-3642 (2005).
12. **L. H. Zhang**, E. Johnson, U. Dahmen. *Mat. Res. Soc. Symp. Proc.*, 821, P8.7.1-6 (2004).
13. **L. H. Zhang**, M. L. Sui, L. Zhang and D. X. Li, “In-situ TEM observations on morphological instability of ultrathin Pb films”, *Mater. Sci. & Eng. A*, **379**, 2004, 1-6 (2004).
14. R. Z. Huang, **L. H. Zhang**, M. L. Sui, Y. M. Wang, “Formation of disorder aluminium zones in an immiscible lead-aluminium system”, *J Phys-Condens Mat.*, **16**, 1131-1140 (2004).
15. **L. H. Zhang**, M. L. Sui, L. Zhang, and D. X. Li, “Nanoscale Pb inclusions embedded in Al matrix prepared by cold rolling”, *Script Mater.*, **46**, 801-804 (2002).
16. G. F. Chen and **L. H. Zhang**, “Microstructural effect on the good rehealing ability of sputtered K38G nanocrystalline coating”, *J Mat. Sci. Lett.*, **21**, 451-453 (2002).
17. **L.H. Zhang**, M. L. Sui, L. Zhang, K. Y. Hu and D. X. Li, “Investigation on morphological stability of ultrathin Pb films”, *Appl. Phys. Lett.*, **78**, 3621-3623 (2001).
18. J. Zhong, **L. H. Zhang**, Z. H. Jin, M. L. Sui and K. Lu, “Superheating of Ag nanoparticles embedded in Ni matrix”, *Acta Mater.*, **49**, 2897-2904 (2001).
19. L. Zhang, Z. H. Jin, **L. H. Zhang**, M. L. Sui and K. Lu. *Physics*, 2001, Vol. 30, 129-131.
20. L. Zhang, Z. H. Jin, **L. H. Zhang**, M. L. Sui and K. Lu, “Superheating of confined Pb thin film”, *Phys. Rev. Lett.*, **85**, 1484-1487 (2000).

Research interests

- In-situ TEM
- Nanostructured materials
- Microstructure characterization
- Interface and surface
- Microstructure/properties relationship