

**John Thong***M.A., Ph.D (Cambridge)***Associate Professor****Department of Electrical & Computer Engineering****National University of Singapore****4 Engineering Drive 3****Singapore 117576****Phone: 6516 2270****E-mail : elettl@nus.edu.sg**

MAJOR RESEARCH INTERESTS

My current research focus is in the area of nanostructures and nanofabrication. Topics of research include nanowires and nanotubes, in situ nanofabrication and scanning probe microscope techniques, characterization of low-dimensional nanostructures, and device applications. We have developed a variety of novel techniques for in situ nanostructure fabrication and aim to fabricate and characterize functional devices based on 1D & 2D material systems. Another area of research focus is in field-emission electron sources based on nanostructures which complements the above area of work. Current research topics include:

1. Nanowire growth and electrical transport.
2. 1-D & 2-D carbon, metal-oxide and semiconductor materials.
3. Novel field emission electron sources.

RECENT REPRESENTATIVE PUBLICATIONS

1. JTL Thong, CH Oon, WK Eng, WD Zhang, LM Gan, High-current field emission from a vertically aligned carbon nanotube field emitter array, *Applied Physics Letters* 79, 2811 (2001).
2. YM Lau, PC Chee, JTL Thong and V Ng, Properties and applications of cobalt-based material produced by electron-beam-induced deposition. *Journal of Vacuum Science and Technology A* 20, 1295 (2002).
3. CH Oon, JTL Thong, Y Lei and WK Chim, High-resolution atomic force microscope nanotip grown by self-field-emission. *Applied Physics Letters* 81, 3037 (2002).
4. JTL Thong, CH Oon, M Yeadon and WD Zhang, Field-emission induced growth of nanowires. *Applied Physics Letters* 81, 4823 (2002).
5. CH Oon, and JTL Thong, *In situ* nanowire growth for electrical interconnects, *Nanotechnology* 15, 687 (2004).
6. ABH Tay, and JTL Thong, High-resolution nanowires atomic force microscope probe grown by a field-emission induced process, *Applied Physics Letters* 84, 5207 (2004).
7. CH Oon, SH Khong, CB Boothroyd, JTL Thong, Characteristics of single metallic nanowire growth via a field-emission induced process, *Journal of Applied Physics* 99, 064309 (2006).
8. JBK Law and JTL Thong, Simple fabrication of a ZnO nanowire photodetector with a fast photoresponse time, *Applied Physics Letters* 88, 133114 (2006).
9. K S Yeong, JBK Law and JTL Thong, Field-emission-induced growth of nanowire between electrodes, *Applied Physics Letters* 88, 193116 (2006).
10. K S Yeong, and JTL Thong, Field-emission properties of ultrathin 5nm tungsten nanowires, *Journal of Applied Physics* 100, 114325 (2006).