



**SAN FRANCISCO BAY AREA
NANOTECHNOLOGY COUNCIL**

August 2007 Seminar

Subject: Today's Scanning Probe Microscopy (SPM) in Nanotechnology, An introduction for advanced applications of SPM.

Speaker: Allen Gu, Applications Scientist, Pacific Nanotechnology Inc.

Date: Tuesday, August 21, 2007

Time: Registration & light lunch 11:30am. Presentation & Q/A 12:00 to 1pm

NEWEST Place: SEMI World Headquarters 3081 Zanker Rd. San Jose, CA

Directions: Highway 101 to Montague Expressway East to Zanker Rd South; or Highway 880 to Montague Expressway West to Zanker Rd. South; Second Street entrance marked: LOBBY.

Cost: IEEE Members and Students \$5. Non-Members \$10

Please RSVP at our web site: www.ieee.org/nano

Talk Abstract:

Scanning Probe Microscope (SPM) has been a mainstream characterization tool in nanoscience and nanotechnology since it was invented in 1986. The unique combination of 3D atomic resolution, easy operation and less sample selectivity makes it more attractive over other conventional microscopes. Recently, a number of advanced applications beyond visualizing structures have been developed in response to the research demand in property and functionality study of nanoscale materials and devices. It is achieved by utilizing specific interaction forces between specimen atoms and a sharp probe. Electrical properties, thermal conductivity, mechanic force and chemical information could be revealed at the same time as image acquisition. Although machine vendors are facing more challenge in design of more reliable and faster scan mechanism, SPM is widely recognized as a powerful and affordable tool for seeing and measuring objects in this small time.

Speaker Biography:

Allen Gu is Scanning Probe Microscopy Scientist at Pacific Nanotechnology Inc in Santa Clara, CA, an industrial leader in SPM business. He has 15 years' experience in nanotechnology related research and development, including 7 years' expertise in AFM applications. He conducts the majority of the applications and research work at PNI. Prior to PNI, he worked on nano material synthesis and nano device fabrication at the Institute for Micromanufacturing, Louisiana Tech University, where he was a Fellow Researcher focused on projects for the NSF, Air Force, and DOE. Previously, he contributed to key national chemical projects for the Chinese government with a combined value of \$200M. He authored numerous scientific journal publications.

He holds a Ph.D. in Nanosystems Engineering from Louisiana Tech University and B.S. in Chemical Engineering from Nanjing University, China.