

Chemical Engineering student wins top prize at AIChE conference

HER WORK on multilayer thin films at nanoscale has won her top prize at the American Institute of Chemical Engineers (AIChE) Western Regional Conference 2009.

Chemical Engineering undergraduate Betty Tsai has demonstrated in her winning research paper that these nanofilms have revolutionary and unprecedented material properties of repelling water as well as greater hardness.

“The building unit used in this thin film is a novel 3-d silicon-based cube of two nanometres in length. It has very useful applications in biological systems for cell adhesion and drug delivery,” said Betty who represented the region and presented her work at the Institute’s National Paper Competition 2009, a highlight of the AIChE Western Regional Conference.

“I would like to thank my mentor Dr Khine Yi MYA from A*STAR’s Institute of Materials Research and Engineering (IMRE), for her guidance over the past two years. The winning project, ‘The Preparation of Polyelectrolyte Multilayer Films’ was conducted in the IMRE laboratories,” she added.

People who know Betty certainly do not expect less of her. After all, this is the Betty (also a student with the University Scholars Programme) who on a recent Student Exchange Programme, rubbed shoulders with Prof Alan J Heeger, Nobel Laureate in Chemistry (2000) and discussed research projects with him – and the Betty who rode with Prof Glenn Beltz, Associate Dean of Engineering for Undergraduate Studies at the University of California, Santa Barbara (UCSB) on his private jet for a scenic view of the city.

She is certainly no stranger to winning either and recent feathers in her cap included the NUS Colours Award 2009 (Bronze), the University of California (Santa Barbara) Engineering Writing Awards 2009 (Collaborative Research Report and Multimedia), as well as the 22nd NUS Faculty of Engineering Innovation & Research Award 2008 (Certificate of Recognition).

Betty said her interest in Chemical Engineering was kindled when she was in junior college. She was the only student from Hwa Chong Institution (College Section) to be selected by the Ministry of Education for the Youth Research Programme. The project she did on monitoring industrial-scale crystallization reactions in-situ and control polymorphic formation was selected for exhibition at the annual Singapore Science and Engineering Fair 2006.

Betty also won the Outstanding Performance Award for leading her team at the DBS-NUS Business School Internal Case Competition 2007. She was then attempting the Double Degree Programme for Chemical Engineering and Business.

Though she has since concentrated on Engineering, she has not lost her interest in Business. She has been interning at the Singapore Economic Development Board, working on projects in the nanotechnology and security industries in the New Business, New Technology division.

“With diverse learning experiences from exploring my interests in various scientific research work for the past two summers to meeting industry representatives and engaging companies on the commercial aspects of nanotechnology products, I would like to further my experience by interning at a chemical plant in the private sector, such as Shell or Exxon Mobil, during my Industrial Attachment programme next year,” said Betty.



Betty with Prof Dale E Seborg, UCSB.