



Singapore-MIT Alliance for Research and Technology



From Biomolecules to Biofilms

Focused Seminar Series on Biomolecules and Biofilms

11 April — 6 June 2016, Level 5 Seminar Room, Enterprise Wing @ UTown, S'138602

Seminar 1: Alignment, Adhesion and Aggregation of Bacteria in Nanogratings

Dr. Lai Changquan

Singapore-MIT Alliance for Research and Technology Centre

Date: 11 April 2016, Monday

Time: 4pm to 5pm

Venue: Perseverance Room, Enterprise Wing Level 5 @ UTown



Abstract

The adhesion and aggregation of bacteria on surfaces are crucial to the initiation and development of biofilms, and have important implications in fields ranging from the biofouling of membranes and medical equipment to microbial fuel cells. In this seminar, the basic methods through which bacteria attach to surfaces and aggregate in micro-colonies will be presented using the activities of the ubiquitous gram-negative bacteria, *Pseudomonas aeruginosa*. In addition, the effects of nanogratings with subcellular dimensions on bacterial behaviour will be discussed as well.

Biography

Dr. Lai is currently a postdoctoral fellow in BioSystems and Micromechanics Inter-Disciplinary Research Group of Singapore-MIT Alliance for Research and Technology (SMART). He received his Ph.D. in Advanced Materials for Micro- and Nano- Systems, from Singapore-MIT Alliance Programme, National University of Singapore. He was a postdoctoral associate in Biomedical Engineering, NUS, from 2014 to 2015, where he worked on computational fluid dynamic simulations of blood flow in human fetal hearts, as well as experimental materials development to lower blood damage in tubes during extracorporeal circulation. His current research focuses on the use of nanostructures for investigating the fundamentals of bacterial behaviour on surfaces.