

BioSyM Seminar Series 2018

Some physics problems in nanochannel- and nanopore-based technologies for DNA analysis

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Time : 12 pm to 1 pm

Venue : Level 5, Perseverance Room



Abstract

Recent advances in nanofabrication make it possible to develop nanofluidic devices for the applications of biomolecular analysis, such as nanochannel-based genome mapping and DNA nanopore sequencing. The development of these applications need fundamental understanding of DNA behaviors in nanoconfinement. In this talk, I will present our recent research results of DNA behaviors in confinement and the relevant applications in DNA analysis.

Short Biography

Dr. Dai Liang is currently a research scientist in the BioSystems and Micromechanics Inter-Disciplinary Research Group of Singapore-MIT Alliance for Research and Technology (SMART). Dr. Dai pursued his undergraduate from 2000 to 2004 in the physics department of the University of Science and Technology of China (USTC), followed by a PhD study from 2004 to 2009 in the physics department of National University of Singapore (NUS). Before joining SMART in 2010, Dr. Dai was a postdoctoral researcher in the Center for Computational Biology and Bioinformatics of Indiana University. Dr. Dai applies multi-scale modeling, from atomistic to coarse-grained, and statistical mechanics to perform research in soft matter physics and biophysics, with tight collaboration with experimental groups in MIT and NUS.