Faculty of Engineering
Summer Research Program 2020-2021

Project Title: Investigating construction materials at nanoscale using molecular dynamic (MD) simulation

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Objective
Investigating the properties of nano-materials for construction using MD simulation

Project Details
Molecular dynamics (MD) is a computer simulation method for analyzing the physical movements of atoms and molecules. Due to the limitation of experiment at nanoscale, MD simulation can provide an alternative approach for researches to have deeper understanding of the nanoscience and have been proved to be powerful in many fields. Despite the wide application, the understanding of construction materials such as cementitious composites and polymers at nanoscale is still limited due to the complexity of atomic interaction. In this project, the student will be involved in the investigation and in-depth understanding of construction materials at nanoscale using numerical simulation methods. Via this project, the students will gain fundamental understanding of the properties of construction materials at molecular level, as well as acquire skills in coding, data processing and data analysis.

Prerequisites
NA

Additional Information
Applicants may be required to attend an interview