**Title of Project**  
Bioferroelectricity and biopiezoelectricity

**Name of Supervisor:** Prof. Zeng Kaiyang

**Contact Details:**  
Department of Mechanical Engineering, 9 Engineering Drive 1, National University of Singapore  
mppezk@nus.edu.sg; (+65) 6516 6627

**Short Description**

This project is to study the nanoscale structure and functions of bioferroelectricity and biopiezoelectricity (electromechanical coupling phenomena) of biological systems, including seashell structures, bone, teeth and other biological tissues. Bioferroelectricity and biopiezoelectricity is a new research area and their biological and structural functions are yet to be understood. In this project, the effects of bioferroelectricity and biopiezoelectricity to the biological and structural performance of the systems, such as strength, toughness, tissue growth, repair and remodeling as well as other mechanical and functional properties will also be studied.

**Selected References:**