THE UNIVERSITY OF HONG KONG

DEPARTMENT OF MECHANICAL ENGINEERING

SEMINAR

Title: Applications of Density Functional Theory on Design of Advanced Titanium Alloys

Speaker: Professor Qing-Miao Hu
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Date: 4 July, 2017 (Tuesday)

Time: 2:00 p.m.

Venue: Room 7-31, Haking Wong Building, HKU

Abstract:
Titanium alloys possess attractive properties such as high specific strength, good damage tolerance, and excellent corrosion resistance such that they find wide applications in aerospace, marine, and biomedical areas. In recent years, first-principles methods based on density functional theory (DFT) are increasingly employed to understand the physics and to predict the mechanical properties of titanium alloys, which facilitates the rational design of advanced titanium alloys. However, due to the compositional and structural complexity of the titanium alloys, the DFT investigations of the mechanical properties are not straightforward. In this talk, I'll present some examples to show the applications of DFT on the creep resistance, elastic modulus, w-precipitation strengthening and embrittlement of titanium alloys.

ALL INTERESTED ARE WELCOME

For further information, please contact Dr. Y. Chen at 3917 7095.

Research area: Advanced Materials