國立中山大學應用數學系
(Dept. of Applied Math., National Sun Yat-sen University)
Talk

Speaker：Prof. Jiun-Shyan Chen
　　　　　Civil & Environmental Engineering Dept.,
　　　　　University of California, Los Angeles, U.S.A.
Title：Adaptive Multi-scale Galerkin Meshfree Method for
　　　　Mechanics and Materials
Time：2006/02/23（Thu.,星期四）15：30～16：30
Place：理學院 4 樓理 4009-1 室(教室設備：白板、固定單槍、固定電腦)
　　　　(Room 4009-1, Dept. of Applied Math, NSYSU)
Tea Time：15：00~15：30 於理 4010 室 (系辦公室)

Abstract

In recent years, a new class of numerical methods, collectively called the meshfree method, has been developed as a generalization of finite element methods for computational mechanics. Meshfree methods employ new approximation theories that allow the construction of shape functions and domain discretization without the need of an explicit mesh. This unique property provides meshfree methods with considerable advantages over the conventional finite element methods in solving problems involving moving discontinuities, multiple-scale phenomena, and large material distortion and structural deformation. The most significant advantage in meshfree methods is the flexibility in customizing approximation functions for desired smoothness, accuracy, or special characteristics of particular engineering and scientific problems. Adaptivity formulation and multiple scale solution strategies can also be constructed with relative ease.

The objective of this presentation is to provide introduction to the fundamental developments and recent advances in meshfree methods. Issues related to boundary conditions, domain integration, stability, dispersion, and h- and p- adaptivity computation will be discussed. Applications to impact-fragment-penetration problems, multi-scale materials modeling, multi-scale modeling of DNA molecules, and quantum mechanics will be demonstrated.

國立中山大學應用數學系 敬啟

演講查詢網址：http://www.math.nsysu.edu.tw/seminar/semi.html
交通查詢網址： http://www.math.nsysu.edu.tw/department/map.html
敬 請 公 告！ 歡 迎 參 加！