

Title: Reconfigurable Acceleration of Biomedical Applications

Speaker:

Prof. Wayne Luk
Computer Engineering
Imperial College London

Date: Tuesday, 28 September 2010

Time: 11:30 am

Venue: Room 603, Chow Yei Ching Building

Abstract:

This talk provides an overview of recent research at Imperial College on accelerating biomedical applications targeting reconfigurable hardware such as field-programmable gate arrays. Two applications would be covered to illustrate our approach. The first concerns techniques for speeding up subgraph identification based on a canonical graph labelling algorithm, which can be used to find common functional structures within Protein Interaction Networks. The second concerns techniques for speeding up an image registration algorithm, which can be used for processing 3D medical images. The potential of this approach is discussed, and a recent system containing multiple types of accelerators is introduced.

Biography:

Prof. Wayne Luk is a Professor of Computer Engineering at Imperial College London. He founded and leads the Computer Systems Section and the Custom Computing Group in Department of Computing, and was Visiting Professor at Stanford University and Queen's University Belfast. His research interests include reconfigurable computing, field-programmable devices and systems, and design automation. Eleven of his papers received awards from the ASAP, FPL, FPT, SAMOS, SPL and ERSA conferences, and he also won a Research Excellence Award from Imperial College London. He is a Fellow of the IEEE and a Fellow of the BCS, and is Editor-in-Chief for ACM Transactions on Reconfigurable Technology and Systems.

Organizer: Dr. H.K.H. So