Title: Principles of guarded structural indexing

Speaker: Dr. George Fletcher  
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Chaired by: Dr Chan Chee Yong, Associate Professor, School of Computing  
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Abstract:
We present a new structural characterization of the expressive power of the acyclic conjunctive queries in terms of guarded simulations, and give a finite preservation theorem for the guarded simulation invariant fragment of first order logic.

We discuss the relevance of these results as a formal basis for constructing so-called guarded structural indexes. Structural indexes were first proposed in the context of semi-structured query languages and later successfully applied as an XML indexation mechanism for XPath-like queries on trees and graphs. Guarded structural indexes provide a generalization of structural indexes from graph databases to relational databases.

Biodata:
George Fletcher is an Assistant Professor in the Web Engineering group at the Eindhoven University of Technology, in The Netherlands. George was awarded a PhD in computer science from Indiana University, Bloomington (2007), with a dissertation on the topic of query learning for data integration. His research currently focuses on the design and engineering of database query languages for graph and web data.