Title: Generalized Universality

Speaker: Professor Rachid Guerraoui (ACM Fellow), EPFL

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Chaired by: Dr Yu Haifeng, Dean's Chair Associate Professor, School of Computing (yuhf@comp.nus.edu.sg)

Abstract:

Universality, at the heart of computing, means in a distributed context, a set of nodes emulating a highly available, centralized Turing machine, using a consensus abstraction through which the nodes agree on common decisions. The idea is at the heart of the fault-tolerance of most data centers today. Yet, consensus is just a special case of a more general abstraction, k-set consensus, where nodes agree on at most k different decisions. It is natural to seek a generalization of universality with k-set agreement. (The work is joint with Eli Gafni)

Biodata:

Rachid Guerraoui is professor of Computer Science at the Swiss Federal Institute of Technology in Lausanne where he leads the Distributed Programming Laboratory. Rachid is fellow of the ACM and has recently been awarded an Advanced ERC grant and a Google focused award. He has also been affiliated in the past with the Research Center of Ecole des Mines de Paris, the Commissariat a l'Energie Atomique in Saclay, Hewlett-Packard Laboratories in Palo Alto and the Massachusetts Institute of Technology. (lpdwww.epfl.ch/rachid)