Algorithms for Data Management and Migration

Professor Samir Khuller
Computer Science Department
University of Maryland

Date: 02 October 2012 (Tuesday)
Time: 3.00pm – 4.00pm
Venue: MAS Executive Classroom 1, MAS-03-06
School of Physical and Mathematical Sciences

We will consider some fundamental optimization problems that arise in the context of data storage and management. In the first part of the talk we will address the following question: How should we store data in order to effectively cope with non-uniform demand for data? How many copies of popular data objects do we need? Where should we store them for effective load balancing? In the second part of the talk we will address the issue of moving data objects quickly, to react to changing demand patterns. We will develop approximation algorithms for both these problems. The first part of the talk is joint work with Golubchik, Khanna, Thurimella and Zhu. The second part is joint work with Kim and Wan.

Speaker Biography
Samir Khuller received his M.S and Ph.D from Cornell University in 1989 and 1990, respectively, under the supervision of Vijay Vazirani. He spent two years as a Research Associate at the Institute for Advanced Computer Studies (UMIACS) at the University of Maryland, before joining the Computer Science Department in 1992, where he is currently Professor and Chair in the Department of Computer Science. He spent several summers at the IBM T. J. Watson Research Center, and also visited the IBM Tokyo Research Lab for several weeks. From 2004 to 2008 he was the Associate Chair for Graduate Education. His research interests are in graph algorithms, discrete optimization, and computational geometry. He has published about 150 journal and conference papers, and several book chapters on these topics. He is an editor for the journal Algorithmica, Networks, International Journal on Foundations of Computer Science, problems Editor for ACM Trans. on Algorithms, and a columnist for SIGACT News. He has served on several program committees including SODA 1997, APPROX 1999, APPROX 2000 (chair), STOC 2003, PODS 2006, SODA 2007, APPROX 2010, ESA 2010, STOC 2013. Recently he was elected to be on the ESA Steering Committee for a 3 year term. He received the National Science Foundation's Career Development Award, several Dept. Teaching Awards, the Dean's Teaching Excellence Award and also a CTE-Lilly Teaching Fellowship. In 2003, he and his students were awarded the "Best newcomer paper" award for the ACM PODS Conference. He received the University of Maryland's Distinguished Scholar Teacher Award in 2007, as well as a Google Research Award. He graduated at the top of the Computer Science Class from IIT-Kanpur.

Host: Assistant Professor Edith Elkind, Division of Mathematical Sciences, School of Physical and Mathematical Sciences