



Collaborative Graduate Specialization in
**Computational
Science and Engineering**

WEEKLY COLLOQUIUM

Tuesday, 24 January 2006
2:30-3:30 in Goodes 409

Speaker: Joerg Sack
Professor and SUN-NSERC Chair
School of Computer Science
Carleton University

Title: Parallel and Concurrent Shortest Path Problem

Abstract: Shortest Paths Problems rank among the fundamental problems studied in areas such as Graph Theory, Computational Geometry, ...; they arise in several application domains e.g., Robotics, Geographic Information Systems and Engineering. We discuss geometric shortest path problems with particular focus on weighted domains, i.e., where the cost of a path (path segment) depends on the properties of the medium it goes through. We discuss sequential and parallel algorithms and their implementations from practical and theoretical perspectives.

About the speaker:

Dr. Sack received a M.C.S. ("Diplom") degree from the University of Bonn, Germany, and a Ph.D. from McGill University, Montreal. His research interests include algorithms, data structures, distributed and parallel computing, computer graphics, geographic information systems and foremost computational geometry. He is editor-in-chief of the journal Computational Geometry-Theory and Applications and editor of The Journal of Visualization and Computer Animation. In 1996 he was awarded an industrial NSERC Chair in Applied Parallel Computing with a focus on spatial modeling; in 2001, the Chair was renewed with participation by SUN Microsystems. He is Carleton's leading scientist in the High Performance Computing Virtual Laboratory. He is a member of NSERC's Committee on Research Partnerships and of the C3.ca Board of Directors.