**Colorado State University's
Information Science and Technology Center (ISTeC)
*presents <u>two</u> lectures by***
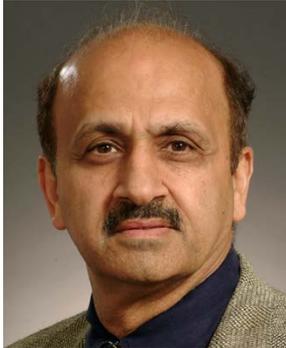
# Sartaj Sahni
**University of Florida
Distinguished Professor,
Chair, Computer and Information
Science Department**

# ISTeC Distinguished Lecture
**in conjunction with the
Electrical and Computer Engineering Department and
Computer Science Department Seminar Series**

# "Green Internet Routers"
**Monday, April 12, 2010**
Reception:  10:30 a.m.
Lecture:  11:00 – 12:00 noon
Location: Lory Student Center Grey Rock Room

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# Special Electrical and Computer Engineering Seminar
*sponsored by ISTeC*

# "Sensor Deployment"
**Monday, April 12, 2010**
Lecture:  3:30 – 4:30 p.m.
Location:  Engineering Room B103

# ABSTRACTS

**"Green Internet Routers"**

Internet traffic moves from source to destination via intermediate Internet nodes. At each intermediate node, a router is used to determine the next node on the source to destination path. The design of an Internet router poses several challenges including energy consumption and processing speed. This talk focuses on the energy consumption trend by worldwide Internet routers and on research to reduce the energy consumed while simultaneously improving processing performance. Since Ternary Content Addressable Memories are widely used in commercial routers and since these memories consume significant energy, the talk focuses on recently developed energy efficient router lookup table designs using these memories.

**"Sensor Deployment"**

We focus on the problems that arise in sensor deployment. We begin by reviewing several forms of the sensor deployment problem—point and region coverage, coverage and connectivity, coverage lifetime, coverage quality—and then go over some of our recent results related to deployment and localization using difference of distances. These recent results include integer linear programming formulations for the deployment of heterogeneous sensors, approximation algorithms for minimum cost deployment, and a computational geometry method for event localization using the time difference of arrival (TDOA) method.

# SPEAKER BIOGRAPHY

**Dr. Sartaj Sahni** (http://www.cise.ufl.edu/~sahni/) is a Distinguished Professor and Chair of Computer and Information Sciences and Engineering at the University of Florida.  He is also a member of the European Academy of Sciences, a Fellow of IEEE, ACM, AAAS, and Minnesota Supercomputer Institute, and a Distinguished Alumnus of the Indian Institute of Technology, Kanpur. In 1997, he was awarded the IEEE Computer Society Taylor L. Booth Education Award "for contributions to Computer Science and Engineering education in the areas of data structures, algorithms, and parallel algorithms," and in 2003, he was awarded the IEEE Computer Society W. Wallace McDowell Award "for contributions to the theory of NP-hard and NP-complete problems." Dr. Sahni was awarded the 2003 ACM Karl Karlstrom Outstanding Educator Award for "outstanding contributions to computing education through inspired teaching, development of courses and curricula for distance education, contributions to professional societies, and authoring significant textbooks in several areas including discrete mathematics, data structures, algorithms, and parallel and distributed computing."  Dr. Sahni received his B.Tech. (Electrical Engineering) degree from the Indian Institute of Technology, Kanpur, and the M.S. and Ph.D. degrees in Computer Science from Cornell University.  Dr. Sahni has published over two hundred and eighty research papers and written 15 texts. His research publications are on the design and analysis of efficient algorithms, parallel computing, interconnection networks, design automation, and medical algorithms.

**To arrange a meeting with the speaker**, please contact MaryAnn Stroub at (970) 491-2708 or mstroub@engr.colostate.edu.

**ISTeC (Information Science and Technology Center)** is a university-wide organization for promoting, facilitating, and enhancing CSU's research, education, and outreach activities pertaining to the design and innovative application of computer, communication, and information systems. For more information, please see ISTeC.ColoState.edu.

**Both lectures are open to the public.**