

DEPARTMENT OF MATHEMATICS AND STATISTICS COLLOQUIUM

UNIVERSITY OF GUELPH

Prof. Kostas Plataniotis

The Edward S. Rogers Department of ECE

University of Toronto

**“Dynamic model-based filtering for mobile terminal
location estimation”**

ABSTRACT:

Mobile terminal location has attracted much interest for emergency communications, location sensitive browsing, and resource allocation. The topic of this presentation is location estimation based on propagation distance measurements from fixed location base stations. The relationship between the measurements and terminal location is complicated by Non Line of Sight (NLOS) propagation when the shortest distance straight line path from receiver to transmitter is obstructed, multipath propagation, receiver noise, and interference noise. In this presentation non-parametric estimation and dynamic filtering for accurate location estimation are reviewed.

The location methods presented reduce the root mean square location error from 100 meters, for the previous methods, to 10 meters for a range error standard deviation of 15 meters. They allow for location prediction in resource allocation algorithms to facilitate efficient cellular networks to carry more data using less bandwidth.

PLACE: C&M 319 UNIVERSITY OF GUELPH

DATE: Thursday, October 30, 2003

TIME: 4:00 – 5:00 p.m.

COFFEE: 3:30-4:00 p.m.

ALL ARE WELCOME!

SPEAKER BIOGRAPHY:

K.N. (Kostas) Plataniotis received his B. Eng. degree in Computer Engineering & Informatics from University of Patras, Greece in 1988 and his M.S and Ph.D degrees in Electrical Engineering from Florida Institute of Technology (Florida Tech) in Melbourne, Florida, in 1992 and 1994 respectively. He was with the Computer Technology Institute (C.T.I) in Patras, Greece from 1989 to 1991. He was a Postdoctoral Fellow at the Digital Signal & Image Processing Laboratory, Department of Electrical and Computer Engineering University of Toronto, Toronto, Canada from November 1994 to May 1997. From September 1997 to June 1999 he was an Assistant Professor with the School of Computer Science at Ryerson University, Toronto, Ontario. He is now an Assistant Professor with the The Edward S. Rogers Sr. Department of Electrical and Computer Engineering at the University of Toronto in Toronto, Ontario, a Nortel Institute for Telecommunications Associate, and an Adjunct Professor in the Department of Mathematics, Physics and Computer Science at Ryerson University. His research interests include multimedia signal processing, intelligent and adaptive systems, and wireless communication systems. Dr. Plataniotis is a member of the Technical Chamber of Greece, and is a Senior Member of IEEE.