

## Seminar Announcement

### Communication Sciences

# Optimum Joint Detection and Estimation: Application to MIMO Radar

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1:00 pm - 2:00 pm  
EEB 248

**Abstract:** We consider the joint detection and parameter estimation problem. By combining the Bayesian formulation for estimation with suitable constraints on the detection subproblem we develop optimum one- and two-step test for the joint detection/estimation case. The proposed combined strategies have the very desirable characteristic to allow for the trade-off between detection power and estimation efficiency. Our theoretical developments are then applied to the problem of MIMO radar where we detect a target but also estimate its location. Simulations demonstrate that by using the jointly optimum schemes, we can experience significant improvement in estimation quality with small sacrifice in detection power.

**Biography:** George V. Moustakides received the diploma in Electrical & Mechanical Engineering from the National Technical University of Athens, Greece, in 1979; the MSc in Systems Engineering from the Moore School of Electrical Engineering, University of Pennsylvania, Philadelphia, in 1980, and the PhD in Electrical Engineering and Computer Science from Princeton University, Princeton NJ, in 1983. From 1983 to 1986 he was with INRIA, France and from 1987 to 1990 with the Computer Technology Institute of Patras, Greece. In 1991 he joined the Computer Engineering and Informatics department, University of Patras, Greece as Associate Professor and became Professor in 1996. Since 2007 he is with the department of Electrical and Computer Engineering of the University of Patras. During the period 2001-2004 he also held a senior researcher position with INRIA, France.

His current interests include: sequential detection, statistical signal processing and signal processing for hearing aids.

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