Arthur Imperatore School of Sciences and Arts

Department of Mathematical Sciences

Seminar in Stochastic Systems

Carlo Marinelli

School of Business,
Columbia University, New York

*On some stochastic optimal control problems of delay equations
arising in advertising models*

Friday, March 5, 2004
11:00 am
Pierce 218

Abstract: We consider a class of optimal advertising problems under uncertainty for the introduction of a new product to the market, generalizing a classical model of Nerlove and Arrow. In particular, we allow the dynamics of the image of the product (the goodwill) to depend on its past, and advertisement spending to affect the goodwill with delay. The optimization program is formulated as an infinite dimensional stochastic control problem to which we associate, through the dynamic programming principle, a second order Hamilton-Jacobi equation. The value function of the problem and the optimal advertising policy can be characterized (in some simple cases even explicitly) in terms of the solution of this equation

Carlo Marinelli is completing his PhD study at Columbia Business School. His research interests are in the area of stochastic analysis and its applications in management science and finance, mathematical control theory, stochastic (partial) differential equations, and heavy tailed processes.

Refreshments will be served at 11:00 pm.
For more information contact Prof. Darinka Dentcheva at ddentche@stevens-tech.edu or call 201-216-5449.