

APPLIED MATHEMATICS SEMINAR

Department of Mathematics
University of Puerto Rico, Rio Piedras

Time: 10:00 AM - 11:00 AM, Monday 09 February 2015

Location: TBA

Stochastic Approximations and Applications

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Abstract. As an introduction, we will begin by illustrating what stochastic approximation is. Then we will consider some fundamental issues such as convergence, rates of convergence, and asymptotic efficiency. We will link the recursive algorithms with the associated dynamic systems represented by ordinary and stochastic differential equations. We will also present a number of application examples in manufacturing, signal processing, wireless communication, and financial engineering. The talk is designed for general audience.

Biosketch. Dr. G. George Yin received the Ph.D. in Applied Mathematics from Brown University in 1987. He joined the Department of Mathematics, Wayne State University in 1987. His research interests include stochastic systems, applied stochastic processes and applications, stochastic recursive algorithms, identification, signal processing, and control and optimization. He served on the IFAC Technical Committee on Modeling, Identification and Signal Processing, and many conference program committees; he was the editor of SIAM Activity Group on Control and Systems Theory Newsletters, Co-Chair of SIAM Conference on Control & Its Application, 2011, Co-Chair of 1996 AMSSIAM Summer Seminar in Applied Mathematics and 2003 AMS-IMS-SIAM Summer Research Conference, Co-organizer of 2005 IMA Workshop on Wireless Communications and 2006 IMA PI conference. He was Vice Chair (2012 - 2013) and was Program Director (2010 - 2011) of SIAM Activity Group on Control and Systems Theory; he was Chair of the SIAM W.T. and Idalia Reid Prize Selection Committee (2013); Chair of the SIAG/Control and Systems Theory Prize Selection Committee (2013); he was Chair of SIAM SICON Best Paper Prize Committee (2012); he is an associate editor of SIAM Journal on Control and Optimization, and is on the editorial board of a number of other journals. He was an Associate Editor of *Automatica* and *IEEE Transactions on Automatic Control* 1994 - 1998. He is President of Wayne State Universitys Academy of Scholars. He is a Fellow of IEEE. (*Extracted from JFAC Journal Automatica*)