



Department of Mathematics

Numerical Mathematics and Applied Analysis Group Seminar (NMAA)

Thursday, May 17, 2012
Room 210, Run Run Shaw Building, HKU

Prof. Sy-Ming Guu
Yuan Ze University, Taiwan

Lecture 1: Fuzzy matrices and fuzzy Markov chains

at

10:30am - 12:00noon

Abstract: In this talk, we shall review the limiting behavior of the powers of a fuzzy matrix under different algebraic operations (such as max-min, max-product, etc.). Conditions for convergence will be provided. We also talk about the fuzzy Markov chains. Unlike the classic Markov chains that need conditions to ensure the existence of the ergodicity, we shall introduce the max-mean fuzzy Markov chains with the property that ergodicity holds for all such Markov chains.

Lecture 2: Solving fuzzy relational equations

at

2:30 - 4:00pm

Abstract: Fuzzy relational equations provide essential modeling frameworks to the inverse problems which relate to find the causes for given consequences. Since under mild conditions the solution set of a fuzzy relational equation is completely determined by a maximal solution and a finite number of minimal solutions, finding all minimal solutions effectively has become a major challenge in the field. In this talk, we shall discuss the effects of different algebraic operations on solving the fuzzy relational equations. Optimization problems with a fuzzy relational equation constraint will be discussed.

Speaker:



Prof. Sy-Ming Guu obtained both his M.S. degree in statistics and Ph.D. degree in operations research from Stanford University, California, USA. Currently, he is affiliated with the College of Management, Yuan Ze University, Taoyuan, Taiwan and holds the 2009 and 2012 Hsu Y-Z chair professorship. His research interests include optimization-related topics, matrix analysis, fuzzy dynamic system, and economic finance. He was the Dean of College of Management 2002-2007 and Provost 2007-2011, Yuan Ze University.

All are welcome
