

# COLLOQUIUM

DEPARTMENT OF MATHEMATICS AND STATISTICS  
OAKLAND UNIVERSITY  
ROCHESTER, MICHIGAN 48309

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Applied Nonlinear and Chaotic Systems and their Control

## **Abstract**

This presentation will integrate three connected parts. Part I contains introductory, yet fundamental concepts regarding nonlinear control systems. In part II, an extensive analysis of a class of parametric circuits is given, including dynamical complexity and Lyapunov spectra. Part III, is devoted to a new recursive nonlinear control method with promise of application, in controllable and observable chaotic behaviors.

**372 Science and Engineering Building**  
**Thursday, April 11th, 2002**  
**3:00 to 4:00 P.M.**  
**(Refreshment at 2:30 to 3:00 P.M. in Room 368,**  
**Science and Engineering Building)**

### **About the speaker**

Dr. Mohamed Zohdy received B.A.Sc (hons.) from Cairo Univ., M.A.Sc and Ph.D. from Univ. of Waterloo, all in Electrical Engineering. He held several industrial, research, and academic positions in Egypt, Canada, and USA. He is professor of Electrical and System Engineering at Oakland University, Rochester, Michigan, USA.

His recent research is in Nonlinear control, Chaos, Robust control, Neural, fuzzy, evolutionary, wavelet systems. He is also interested in industrial, automotive, and distributed system engineering. He has over ninety refereed publications, graduated eleven Ph.D. students, and served as chair and co-chair of several technical and professional conferences. He is currently co-editor of Int. J. robotics, Auto., review chair for American. control conf., professional engineer certification board, and was editor of SCS J., Int. appl. J., and IEEE SEM executive, awarded distinguished counselor honor, and the IEEE millennium medal. He is a senior member of IEEE, SCS, AMSE, and member of ekn, and sigma si.