Prof. Alfred Hero

University of Michigan

Monday Nov 13 at 4pm

Sponsored by:

IEEE Maine Communications Society

Place
Hill Auditorium, Barrows Hall
Electrical and Computer Engineering Dept
University of Maine, Orono, ME

Online Registration
www.eece.maine.edu/~abedi/comsoc

Free Admission. Dinner will be served following the talk at 5:00pm

Percipient Signal Processing:

Seeing the Unseen in High Dimensional Data

Abstract

This talk will discuss application of signal processing to data mining and structure discovery from different types of high dimensional data. The focus will be on extracting salient structure hidden in measurements collected from interacting agents in a network. The sensors in the network can be swarms of mobile cameras tracking objects, wireless transducers trying to cooperatively self locate, Internet routers, or detectors of flourescent gene expression labels in a gene microarray. A common theme in my talk will be dimensionality reduction, manifold learning, and dynamic graphical models.

Bio

Alfred O. Hero III received the B.S. (summa cum laude) from Boston University (1980) and the Ph.D from Princeton University (1984), both in Electrical Engineering. Since 1984 he has been with the University of Michigan, Ann Arbor, where he is a Professor in the Department of Electrical Engineering and Computer Science and, by courtesy, in the Department of Biomedical Engineering and the Department of Statistics. He has held visiting positions at Massachussets Institute of Technology (2006), I3S University of Nice, Sophia-Antipolis, France (2001), Ecole Normale Sup\'erieure de Lyon (1999), Ecole Nationale Sup\'erieure des T\'el\'ecommunications, Paris (1999), Scientific Research Labs of the Ford Motor Company, Dearborn, Michigan (1993), Ecole Nationale Superieure des Techniques Avancees (ENSTA), Ecole Superieure d'Electricite, Paris (1990), and M.I.T. Lincoln Laboratory (1987 - 1989). His recent research interests have been in areas including: inference for sensor networks, adaptive sensing, inverse problems, bioinformatics, and statistical signal and image processing.

He has served on the editorial boards of the IEEE Transactions on Information Theory (1995-1998, 1999), the IEEE Transactions on Computational Biology and Bioinformatics (2004-2006), and the IEEE Transactions on Signal Processing (2002, 2004). He was Chairman of the Statistical Signal and Array Processing (SSAP) Technical Committee (1997-1998) and Treasurer of the Conference Board of the IEEE Signal Processing Society. He was Chairman for Publicity of the 1986 IEEE International Symposium on Information Theory (Ann Arbor, MI) and General Chairman of the 1995 IEEE International Conference on Acoustics, Speech, and Signal Processing (Detroit, MI). He was co-chair of the 1999 IEEE Information Theory Workshop on Detection, Estimation, Classification and Filtering (Santa Fe, NM) and the 1999 IEEE Workshop on Higher Order Statistics (Caesaria, Israel). He Chaired the 2002 NSF Workshop on Challenges in Pattern Recognition. He co-chaired the 2002 Workshop on Genomic Signal Processing and Statistics (GENSIPS). He was Vice President (Finance) of the IEEE Signal Processing Society (1999-2002). He was Chair of Commission C (Signals and Systems) of the US National Commission of the International Union of Radio Science (URSI) (1999-2002). He was member of the Signal Processing Theory and Methods (SPTM) Technical Committee of the IEEE Signal Processing Society (1999-2004). He is currently President of the IEEE Signal Processing Society (2006-2007) and a member of the IEEE TAB Periodicals Committee (2006-2008). Alfred Hero is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a member of Tau Beta Pi, the American Statistical Association (ASA) , the Society for Industrial and Applied Mathematics (SIAM), and the US National Commission (Commission C) of the International Union of Radio Science (URSI). He has been plenary and keynote speaker and several major conferences and received a IEEE Signal Processing Society Meritorious Service Award (1998), a IEEE Signal Processing Society Best Paper Award (1998), a IEEE Third Millenium Medal (2000) and a 2002 IEEE Signal Processing Society Distinguished Lecturership.