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# Munther A. Dahleh

Professor

Associate Dept. Head of EECS

Acting Director of ESD

Acting Director of LIDS

Texas A&M, BS, EE 1983

Rice University, PhD, EE, 1987

## BRIEF BIOGRAPHY

Professor Dahleh joined LIDS as an assistant professor of EECS in 1987 and became a full professor in 1998. He is currently the associate director of MIT's Laboratory for Information and Decision Systems. He spent the spring of 1993 as a visiting professor in the Department of Electrical Engineering, California Institute of Technology and has held consulting positions with several companies in the U.S. and abroad.

Dr. Dahleh is interested in problems at the interface of robust control, filtering, information theory, and computation, which include control problems with communication constraints and distributed mobile agents with local decision capabilities. His interests include problems in network science, such as distributed computation over noisy networks and information propagation over complex social networks. He also studies model reduction problems for discrete-alphabet hidden Markov models and universal learning approaches for systems with both continuous and discrete alphabets. His research includes the interface between systems theory and neurobiology, and in particular, providing an anatomically consistent model of the motor control system.

## SELECTED PUBLICATIONS

### Books:

- M.A. Dahleh and I. Diaz-Bobillo, *Control of Uncertain Systems: A Linear Programming Approach*, Prentice-Hall, 1995.
- N. Elia and M. A. Dahleh, "Computational Methods for Controller Design," *Lecture Notes in Information Sciences Series*, Springer Ver-Lag, 1998.

### Journal Papers:

- O. Ayaso, D. Shah, and M.A. Dahleh, "Information Theoretic Bounds for Distributed Computation," submitted to *IEEE Trans. on IT*.
- D.C. Tarraf, A. Megretski, and M.A. Dahleh, "A Framework for Robust Stability of Systems Over Finite Alphabets," *Automatic Control, IEEE Transactions on automatic control* 53(5), June 2008, pp. 1133-1146.
- D. Acemoglu, M. Dahleh, I. Lobel, and A. Ozdaglar, "Bayesian Learning in Social Networks," *LIDS Working Paper #2780*, 2008.

- N.C. Martins, M.A. Dahleh, and J.C. Doyle, “Fundamental Limitations of Disturbance Attenuation in the Presence of Side Information,” *Automatic Control, IEEE Transactions on automatic control* 52(1), Jan. 2007, pp. 56-66.
- H.A. Waisanen, D. Shah, and M.A. Dahleh, “A Dynamic Pickup and Delivery Problem in Mobile Networks Under Information Constraints,” *Automatic Control, IEEE Transactions on automatic control*, 53(6), July 2008, pp. 1419-1433.
- F. Karamah, M.A. Dahleh, E. Brown, and S. Massaquoi, “Modeling the contribution of lamina 5 neuronal and network dynamics to low frequency EEG phenomena,” *Biological Cybernetics*, vol. 95, no. 4, Oct. 2006.



phone: 617-253-3892

[dahleh@mit.edu](mailto:dahleh@mit.edu)

<http://dahleh.lids.mit.edu/>

Related Research:

[Market Mechanisms for Matching Supply and Demand in Smart Power Grids](#)

[Resilience of Networked Systems with Application to Transportation, Energy, and Social Interactions](#)



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Massachusetts Institute of Technology

77 Massachusetts Avenue

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CONTACT US:

**617-253-2142**

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Laboratory for Information  
and Systems Decisions

Massachusetts Institute of Technology  
77 Massachusetts Avenue  
Room 32-D608  
Cambridge, MA 02136