



# **Managerial Decision Making: A Control Systems Perspective**



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**Seminar: Friday, April 5**

**2:00-3:00 pm, 125 Reber Building**

**ABSTRACT** The discipline of control systems has had a profound impact on our engineered world: the performance, safety, efficiency, and reliability of many sectors crucial to our economy (aerospace, automotive, the process industries, power grids, communication networks, . . .) would not be possible without automation and control. When viewed abstractly, this success can be attributed to the fact that control science and engineering brings a rigorous, model-based methodology for effective decision-making in complex dynamical systems. But such systems are not just found in the engineered realm; human teams, business entities, and social systems are also complex dynamical systems. In this seminar I will discuss the relevance of control in these domains. Control concepts such as feedback and feedforward, modeling and estimation, delays and time constants, adaptation and robustness, and disturbances and uncertainty have immediate analogs. Connections with systems thinking will be drawn. Results from control systems also offer “insights” for managers and other decision makers, several of which will be discussed.

**BIOGRAPHY** Tariq Samad holds the Honeywell/W.R. Sweatt Chair and is Senior Fellow at the Technological Leadership Institute, University of Minnesota. He joined TLI after a 30-year career with Honeywell, retiring as Corporate Fellow. At Honeywell he contributed to and led technology initiatives for industrial processes, homes and buildings, advanced manufacturing, aerospace, automotive, and clean energy sectors. Dr. Samad is a past president of the American Automatic Control Council and IEEE Control Systems Society and was the founding chair of the IFAC Industry Committee. He currently serves as VP of Publications for IEEE Technology and Engineering Management Society. He is a Fellow of IEEE, IFAC, and AAIA and a member of Control Global’s Process Automation Hall of Fame. His publications include the Encyclopedia of Systems and Control (co-editor-in-chief, Springer). He is the editor for a book series on “Technology Management, Innovation, and Leadership” (John Wiley & Sons / IEEE Press). He received his B.S. from Yale University and M.S. and Ph.D. degrees from Carnegie Mellon University.