Thursday, February 24
Scaife Hall Auditorium
Room 125 at 4:30 p.m.
Refreshments at 4:00 p.m.

**Tariq Samad**
Corporate Fellow
Honeywell Automation and Control Solutions

Tariq Samad is a Corporate Fellow with Honeywell Automation and Control Solutions, based in Minneapolis. His career with Honeywell has spanned 25 years, during which time he has contributed to automation and control technology R&D with applications to electric power systems, the process industries, building management, automotive engines, unmanned aircraft, and clean energy. His research interests relate broadly to automation, intelligence, and autonomy for complex engineering systems. Dr. Samad holds a B.S. degree in Engineering and Applied Science from Yale University and M.S. and PhD. Degrees in Electrical and Computer Engineering from Carnegie Mellon University.

Technology Developments and R&D Challenges for Smart Grid Applications in Homes, Buildings and Industry

The smart grid doesn’t stop at the meter… Over 90% of the electricity generated in developed economies is consumed in homes, buildings, and industrial plants. Greater attention must be paid to end-use sectors if the promised benefits of smart grids – such as reduction of electricity consumption, load shifting, better use of renewable generation and storage, reduced use of fossil fuels, and improved grid reliability – are to be achieved. I will discuss current solutions that are already realizing such benefits, R&D activities under way, and outstanding challenges. Topics covered include automated demand response, remote energy diagnostics, home energy management systems, thermal storage, demand-management ancillary services, and microgrid optimization. Current and proposed system architectures for such solutions will be presented, with examples drawn from residential, commercial, and industrial sectors. The challenges discussed include areas for research focus as well as for standards development.

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