• **Theory of Fuzzy Logic Systems**
  – Fuzzy modeling for complex systems
  – Fuzzy control that takes advantage of human knowledge and experience to deal with challenging real-world control problems
  – Fuzzy discrete event systems capable of modeling discrete event systems with uncertainties
  – Fuzzy hybrid systems to better model a mixture of systems represented by differential equations and discrete events with uncertainties
  – Fuzzy logic-based computational recognition-primed decision model

• **Applications of Fuzzy Logic Systems Theory**
  – Real-time feedback fuzzy control of mean arterial pressure in postsurgical patients in surgical intensive care unit
  – Fuzzy control for improving engine power and speed behavior in hybrid electric vehicles
  – Real-time closed-loop fuzzy control of resuscitation of hemorrhagic shock
  – Intelligent sepsis alert for patients in emergency room
  – Self-learning fuzzy discrete event system for HIV/AIDS treatment regimen selection
  – Distributed, collaborative intelligent agent system for proactive postmarketing drug safety surveillance