

## IMS Researcher Profile

**Institution: Missouri S&T**

Name: Shahab Mehraeen

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Expertise: Missouri University of Science and Technology

Current Research Activities: Nonlinear Control, NN Control, Power System Control, Motor Drive Prognostics

Dissertation/Thesis Topics: Decentralized Control of Power Systems

Project 1: Power System and Energy Harvesting

- Energy harvesting from vibrations for wireless motes
- Development of harvesting circuitry and PZT beam to maximize transfer of energy
- Control of distributed power systems

Project 2: Electronics Prognostics

- Multi-pole motor drive diagnostics and prognostics
- Electronic prognostics

Skills: Nonlinear Control Systems, Power Electronics, Matlab, Simulink

Previous Background:

- Robust Linear Control Systems (M.S. Research Topic),
- Power Plants Control Systems (Working for industry for 4 years)

Publications:

- S Mehraeen, S. Jagannathan, K Corzine, "Energy Harvesting Using Piezoelectric Materials and High Voltage Scavenging Circuitry", IEEE International Conference on Industrial Technology, 2008, China.
- Invention disclosure "Energy Harvesting Using Piezoelectric Materials and High Voltage Scavenging Circuitry" – patent application in progress