



## Resume'

### **Mahdi Hedayati**

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## **RESEARCH INTERESTS**

- *Power electronics applications in power systems and electrical drives*
- *Power converters technologies*
- *Study and modelling of FACTS devices*
- *Modelling and simulation of power systems*
- *Power system quality and energy management*
- *Power system dynamic and control*
- *Robust control and Optimization Theories*
- *Fundamentals of Systems Theory as Applied to Linear and Nonlinear Dynamic Systems*

## **EDUCATIONS**

### July 2007- June 2012 **PhD of Electrical Power Engineering**

- ✓ Department of Electrical and Electronic Engineering, University Putra Malaysia (UPM), Selangor, Malaysia
- ✓ CGPA: 3.875/4
- ✓ Thesis Topic: *Application of Robust Controller in Large Induction Motor for Mitigating Voltage sags*

### Sep. 1994- March 1997 **M.Sc. in Electrical Power Engineering**

- ✓ Department of Electrical Engineering, Tehran Azad University, Tehran, Iran.
- ✓ CGPA:16.94/20.
- ✓ Thesis Topic: *Design of Static Voltage Compensator (SVC) with using Variable Structure Control Theory for Improving Dynamic Behaviour of Induction Motors*

### Sep. 1987- Feb. 1993 **B.Sc. in Electrical Power Engineering**

- ✓ Department of Electrical Eng., Ferdowsi University, Mashhad, Iran

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## PROFESSIONAL EXPERIENCES AND EMPLOYMENT HISTORY

Jan 2015 –Feb 2013     **Head of Post Graduate Study of power Engineering Dep.**, Karaj Azad University

Feb 2013 -Now         **Member of Teaching Staff**, Karaj Azad University

Sep 2012 –Feb 2013     **Visiting Assistant Professor**, Karaj Azad University

Feb 2012- Sep 2012     **Assistant Professor**

- ✓ School of Electrical and Electronic Engineering, Linton Education Group, Malaysia.
- ✓ Member of Teaching Staff

Sep. 2010- May 2012     **Liaison of University and Educational**

**Representative of Azad University in Malaysia**

Dec. 2007- July 2010     **Teaching Assistant**

- ✓ Graduate Research Fellowship (GRF).
- ✓ Department of Electrical Engineering, University Putra Malaysia (UPM), Selangor, Malaysia.
- ✓ Conducted tutorial sessions.

- ❖ Engineering Mathematics
- ❖ Principles of Electrical Power Technology
- ❖ Electrical Circuit

Sep. 2003 – Nov. 2006     **Technical and Commercial Deputy**

- ✓ Reza Trans Werke (R.T.W) Company, Mashad, Iran.
- ✓ Producer of Instrument Transformers, Current and Voltage. Transformers (up to 36Kv) and Toroidal Power Transformers.

March 1997 – July 2007; Sep 2012- Feb 2013     **Lecturer**

- ✓ Department of Electrical Engineering, Azad University, Gonabad, Iran
- ✓ Member of Teaching Staff.

Feb. 2002-sep. 2003     **Lecturer**

- ✓ Department of Electrical Engineering, Azad University, Mashhad, Iran.

Jan. 1999 – Sep. 2003     **Project Manager of Power Substations and Transmission Lines**

- ✓ Moniran Power Engineering Consultant, Mashhad, Iran.

## COURSES TAUGHT

- ❖ **Flexible AC Transmission Systems (PhD / MSc)**
- ❖ **Generalized Theory of Electrical Machines (MSc)**
- ❖ **Power Electronics (MSc)**
- ❖ Industrial Electronics (BSc)
- ❖ Electrical Circuits (BSc)
- ❖ Engineering Mathematics(BSc)
- ❖ Electrical Machines(BSc)
- ❖ Power Systems(BSc)
- ❖ High Voltage Engineering(BSc)
- ❖ Design of Power Transmission Lines(BSc)
- ❖ Design of power Substations(BSc)

## MEMBERSHIPS AND AFFILIATIONS

- Jan. 2008- now     **Member of Institute of Electrical and Electronics Engineers (IEEE)**
- Jan. 2008- now     **Member of Power and Energy Society (PES)**  
 Institute of Electrical and Electronics Engineers (IEEE)
- Dec. 2001 -now     **License of Engineering practice**
- ✓ Supervision and Designing-Natural Entity.
  - ✓ To Execute the Engineering System & Construction Control Act and its Executive by-Low.
  - ✓ Ministry of Housing and Urban Development Director of the Housing and Urban Organization of Khorasan, Iran.
- Sep. 1999– Sep.2003     **Member and Secretary of the Research Board**
- ✓ Moniran Power Engineering Consultant, Mashhad, Iran.

## JOURNAL PAPERS

- ❖ Hossein Berjoui Roshan Pour, H., **Hedayati, M.**, “Application of Multi Objective Reconfiguration to Reduce Losses in Distribution Networks and Improve Power Quality Parameters”, *International Journal of Scientific Research. Vol.3 (9), Sep 2014, 114-119.*
- ❖ **Hedayati, M.**, Mariun, N., Hizam, H., and Bahari, S., “Robust Controller Design for STATCOM Applied to Large Induction Motor using Normalized Coprime Factorization Description”, *Arabian Journal for Science and Engineering. Vol. 38(1), 2013.*
- ❖ **Hedayati, M.**, Mariun, N., Hizam, H., and Bahari, S., “Design of Robust Controller for STATCOM Applied to Large Induction Motor using Graphical Loop Shaping Method”, *Journal of Electrical Engineering. Vol. 12(2), June 2012, pp. 192-200.*

- ❖ Hojabri, M., Soheilrad, M., **Hedayati, M.**, “Available Transfer Capability and Least Square Method”, *Scientific Research and Essays Journal*. Vol. 7(18), May 2012, pp. 1777-1785.
- ❖ **M. Hedayati**, N. Mariun, H. Hizam, S. M. Bashi, ” Investigating the Performance of Shunt FACTS for the Operation of Induction Motors under Different Voltage Sag Conditions,” *Journal of Applied Sciences*, Vol 10 (23), Oct 2010, pp. 3014-3020.
- ❖ **M. Hedayati**, S. M. Bashi, N. Mariun, H. Hizam, ”A Short Review of Different Optimal Robust FACTS Controller Designs,” *International Review of Automatic Control (I.R.E.A.CO)*, Vol. 2, n. 1, January 2009, pp. 8-16.
- ❖ **Mahdi Hedayati**, ”Design Of Sub synchronous Resonance Protection And Reduction Of Torsional Interaction In Power Systems,” *WSEAS Trans on POWER SYSTEMS*, Volume 1, Issue7 July 2006, pp. 1383-1387.

### SELECTED CONFERENCE PAPERS

- ❖ **Mahdi Hedayati**, Norman Mariun, " Investigation of the Robust Control for STATCOM Applied to Large Induction Motor against Load and Sinusoidal Disturbance using Graphical Loop Shaping Method", *28<sup>th</sup> International Power System Conference (PSC)*, Tehran, Iran, Nov 2013.
- ❖ **Mahdi Hedayati**, Norman Mariun, " Assessment of Different Voltage Sags on Performance of Induction Motors operated with Shunt FACTS", *3<sup>rd</sup> IEEE Power Electronics, Drive Systems and Technologies Conference (PEDSTC)*, Tehran, Iran, Feb 2012.
- ❖ **Mahdi Hedayati**, Norman Mariun, Hasim Hizam, Senan Mahmod Bashi, “Performance Study of Drive System and Shunt FACTS for the Operation of Induction Motors,” *IEEE Symposium on Industrial Electronic and Applications (ISIEA)*, Penang, Malaysia, October 2010.
- ❖ **Mahdi Hedayati**, ”Design Of Sub synchronous Resonance Protection And Reduction Of Torsional Interaction In Power Systems,” *6<sup>th</sup> WSEAS International Conference on Power Systems*, Lisbon, Portugal, September 2006.
- ❖ **Mahdi Hedayati**, Hashem Oraee ”Assessment Study Of Shunt Facts Devices For Improving Dynamic Behavior of Induction Motors,” *IEEE conference on Power Electronic and Drive Systems (PEDS)*, Kuala Lumpur, Malaysia, 28Nov- 1Dec 2005.
- ❖ **Mahdi Hedayati**, ”Technical Specification and Requirements of Static VAR Compensation (SVC) Protection Consist of TCR, TSC and Combined TCR/TSC,”*University Power Engineering Conference (UPEC)*, Bristol, England, Sep 2004.
- ❖ **Mahdi Hedayati**, ”Variable Structure Control (VSC) of Flexible AC Transmission System (FACTS) for Improving Dynamic Behavior of Induction Motors," *Med Power Conference*, Athens, Greece, Nov 2002.
- ❖ **Mahdi Hedayati**, Reza. Ghazi, “Variable Structure Control (VSC) of Static Var Compensator (SVC) for Improving Dynamic Behavior of Induction Motors,” *Power System Conference (PSC)*, Tehran, Iran, Nov 1997.

## REFEREES

### 1. **Professor Ir. Dr. Norman Mariun** (*PhD Supervisor*)

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### 2. **Professor Dr. Hashem Oraee**

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### 3. **Professor Dr. Javad Sadeh**

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