

Saeed Sepasi

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Education:

Doctor of Philosophy – Mechanical Engineering (Control and optimization)

August 2011 – December 2014

University of Hawaii at Manoa

- Research Assistant - Renewable Design Lab (RED Lab)
- Research scholar at Hawaii Natural Energy Institute (HNEI) involved in designing, implementing and testing MECO BESS storage control system

Masters of Science – Electrical Engineering (Control)

September 2005– September 2008

Shahrood University of Technology

- Thesis Title: “Identification of Hybrid Systems using intelligent methods(fuzzy)” Resulted in one ISI journal Paper and two conference papers

Bachelors of Science – Electrical Engineering (Biomedical)

October 1999– September 2004

Sahand University of Technology

- Editor of the Sahand Biomedical Engineering Journal

Employment:

Assistant Researcher-Hawaii Natural Energy Institute (GridSTART)

January 2018- Present

Implementing a novel DC based micro grid to manage high penetration levels of grid connected distributed generation and manage power usage in islanded mode.
Modeling of the distribution grid including different control techniques.
Smart inverters controls with voltage regulation goals.

Post Doc Fellow-Hawaii Natural Energy Institute (GridSTART)

January 2015- December 2017

Designing and implementing a DC based micro grid to manage high penetration levels of grid connected distributed generation and manage power usage in islanded mode.
Load forecasting of distributed systems with high PV penetration.
Battery Energy Storage System (BESS) for energy management at the distribution grid.

Research Assistant – Renewable Energy Design Lab at UHM

August 2011 – December 2014

Simulation, modeling, design, development and optimized control of renewable energy and smart grid technologies.

January 2014 – September 2014

Research scholar at HNEI smart grid sector for design and implementation of MECO BESS storage control system.

Control engineer, Tavana ghostar shargh Co., Tabriz, Iran

October 2008– July 2011

Engineering, design and development of end user appliances for smart home applications.
Developed, collected data and analyzed the performance of smart devices, including determination of operating efficiency to reduce impact on power system interconnection.

Publications:

Journal papers (ISI)

1. AM Howlader, S Sadoyama, LR Roose, **S Sepasi** "Distributed voltage regulation using Volt-Var controls of a smart PV inverter in a smart grid: An experimental study", *Renewable Energy*, 2018, 127(1), 145-157.
2. **S. Sepasi**, R. Ghorbani, BY. Liaw, "Inline state of health estimation of lithium-ion batteries using state of charge calculation", *Journal of Power Sources*, 2015, 299(1), 246-254.
3. **S Sepasi**, E Reihani, AM Howlader, LR Roose, MM Matsuura, "Very short term load forecasting of a distribution system with high PV penetration", *Renewable Energy*, 2017, 106, 142–148.
4. E. Reihani, **S.Sepasi**, L.R. Roose, M.M. Matsuura, "Energy management at the distribution grid using a Battery Energy Storage System (BESS)", 2016, 8(77), 337-344.
5. S. Sreedharan, R. Ghorbani, **S. Sepasi**, W. Ongsakul and J. G. Singh, "Simultaneous Optimization of Renewable Power at Transmission and Distribution Grid". *Procedia Technology*, Volume 21, 2015, Pages 24-32.
6. **S. Sepasi**, L.R. Roose, M.M. Matsuura, "Extended Kalman Filter with a Fuzzy Method for Accurate Battery Pack State of Charge Estimation", *Energies*, 2015, 8(6), 5217-5233.
7. **S. Sepasi**, R. Ghorbani, BY. Liaw, "A Novel On-Board State of Charge Estimation Method for Aged Li-ion Batteries Based on Model Adaptive Extended Kalman Filter", *Journal of Power Sources*, 2013, 245 (1), 337–344.
8. **S. Sepasi**, R. Ghorbani, BY. Liaw, "Improved extended Kalman filter for state of charge estimation of battery pack", *Journal of Power Sources*, 2014, 255 (1), 368–376.
9. **S. Sepasi** and S. E.shafei, "Incorporating Sliding Mode and Fuzzy Controller with Bounded Torques for Set-Point Tracking of Robot Manipulators", *Journal of Electrical and Electronic Engineering*, 2010. No. 8 (104), 2010, Lithuania (JEEE).

Conference papers

1. AM Howlader, S Sadoyama, LR Roose, **S Sepasi** "Distributed voltage control method using Volt-Var control curve of photovoltaic inverter for a smart power grid system", 2017 IEEE 12th International Conference on Power Electronics and Drive Systems (PEDS).
2. AM Howlader, S Sadoyama, LR Roose, **S Sepasi** "Experimental analysis of active power control of the PV system using smart PV inverter for the smart grid system", 2017 IEEE 12th International Conference on Power Electronics and Drive Systems (PEDS).
3. **S Sepasi**, AM Howlader, E Reihani, LR Roose, "A coordinated approach for frequency control of zero emission based smart PV-wind-battery power system", IEEE ICECE2016, Bangladesh.
4. **S. Sepasi**, L.R. Roose, M.M. Matsuura, "Universal state of charge estimator for battery packs of battery energy storage systems", IEEE IECON2015, Yokohama, Japan.
5. **S. Sepasi**, R. Ghorbani, B.Y. Liaw, "SOC Estimation for Capacity Faded Lithium-Ion Batteries Using Adaptive Extended Kalman Filter", ITEC 2013.
6. **S. Sepasi**, T. Alizadeh, A. Alziadeh and S. Barzegary, "Comparison of two online hybrid system identification methods", IMECS international conference on Control and Automation", Hong-Kong, March 2010.
7. **S. Sepasi** and M.A.Sadrnia, "On-line identification of an electronic component placement process using a potential fuzzy clustering scheme", 2nd IEEE International Conference on Electrical Engineering, 2008, Pakistan.

Research interests:

- Smart grids and its controls
- Analysis and optimization of the smart power grids
- Energy storage methods and applications
- Renewable energy conversion devices
- Efficiency enhancing technologies for existing systems