Hamid Yaghobi

Current Position: Associate Professor-present
Affiliation: Faculty of Electrical and Computer Engineering Semnan University.
Address: Electrical Power Engineering Department, Electrical and computer Engineering School, Semnan University, Semnan, Iran.
Office Tel. +98 2333654264
Email: yaghobi@semnan.ac.ir

Education

- Ph.D. in Electrical Engineering, Ferdowsi University of Mashhad, Department of Electrical Engineering Mashhad, Iran, (Jul, 2011), Thesis entitled: "Detection of Inter-Turn Short Circuits in the Stator Windings of Synchronous Generator Based on Flux Linkage"

- M.S. in Electrical Engineering, Ferdowsi University of Mashhad, Department of Electrical Engineering Mashhad, Iran, (Jan, 2004),Thesis entitled: "Modeling of Rechargeable Batteries Including Electrochemical and Thermal Features"

- B.S in Electrical Engineering, K.N.Toosi University of Technology, Department of Electrical Engineering Tehran, Iran, (Apr, 2001), Thesis entitled: "Voice Recognition by Multilayer Artificial Neural Network and implementation on TMS320C31"

Expertise

- Electrical Machine-Condition Monitoring and Fault Diagnosis
- Electrical Machine-Protection
- Electrical Machine-Design
- High Voltage Substation-Design&Equipment
- High Voltage Engineering & High Voltage Tests
- Artificial Intelligence

سابقه فعالیت اجرایی در صنعت :

۱ –۱۰ سال سابقه کار در دفتر فنی انتقال با سمت ناظر عالیه – شرکت برق منطقه ای خراسان – مشهد– ۸۱–۹۱

۲– عضویت در کمیته تخصصی تحقیقات برق خرسان تا سال ۹۱

۳– عضویت در هیات علمی برق خراسان تا سال ۹۱

۴– عضویت در کمیته بهسازی و آموزش منابع انسانی برق خراسان تا سال ۹۱

۵– عضویت در کارگروه تحویل و تحول معاملات پست، تولید وعمومی تا سال ۹۱

۶– مشارکت ونظارت بر تستهای کارخانه ای جهت خرید کالاهای مختلف تا سال ۹۱

۱– نظارت بر تستهای ترانسفورماتورهای قدرت – ایران ترانسفو–زنجان

۲– نظارت بر تستهای ترانسفورماتورهای جریان وولتاژ– نیروترانس–شیراز

۳– نظارت بر تستهای کلیدهای قدرت– پارس سوییچ–زنجان

۴– نظارت بر تستهای بانکهای خازنی– شرکت شریم هندوستان و ایران سوییچ تهران

۵- نظارت بر تستهای راکتور قدرت – شرکت هیوندایی کره جنوبی

۶- نظارت بر تستهای پستهای GIS ساخت شرکت Ganz در کشور مجارستان

۷- نظارت بر تستهای تجهیزات پست-خراسان

۸- .....

برگزاری و تدریس دوره های صنعتی

برگزاری دوره های مختلف صنعتی در شرکت های مختلف از جمله پالایشگاه سرخس، شرکت نفت و گاز، شرکت برق منطقه ای مازندران، خراسان و ...

Experiences in Industry

- **Senior high voltage substation and power plant supervisor at Khorasan Regional Electric Company (KREC) for more than 10 years-Mashhad, Iran.**

- **Supervisor of preventive maintenance and refurbishment projects of new high voltage substations, power transformers, synchronous generators, circuit breakers, disconnecting switch, instrument transformers, surge arrester of Khorasan Regional Electric Company(KREC) for more than 10 years-Mashhad, Iran.**

Teaching Courses in Industry

Teaching Courses in different Company such as Shahid Hasheminejad Gas Refinery CO., Khorasan Regional Electric CO., Mazandaran Regional Electric CO…

Training Courses & Workshops

- Modern Maintenance Techniques Including Condition Monitoring, Vibration Analysis, Corrosions, Thermography and Balancing Techniques- Mobtaker Sanat ENG.CO and Sharif university of Tehran- July 2003.
- Life Management of Power Transformers-Maham Shargh Group-March 2010.
- Power Transformers -Technical Course - Iran Trasnfo Corporation.
- Measurement t of the Zero-Sequence Impedance for a Three-Phase Power Line-Siemens & IGMC CO.
- Instrument Transformers -Technical Course-Nirou Trans CO.-May 2010.
- High Voltage Circuit Breakers and Disconnecting Switch -Technical Course-Pars Switch CO.
- Optimal Reactive Power Control in Power Network-Niroo Research Institue-July 2005.
- Optimal Planning of Transmission Power Network in Dynamic and Static Condition-Niroo Research Institue-May 2006.
- International Computer Driving License (ICDL).

Teaching Courses

- Substation Design
- Substation Equipment
- High Voltage Engineering & High Voltage Tests
- Reactive Power Control in power network
- Power Transformers …

Teaching (Academic Courses)

Undergraduate (B.Sc.)

- Electrical Machines (I, II, III)
- Especial Machines
- Substation Equipment & Design
- High Voltage Engineering
- Electric Circuit

Postgraduate (M.Sc.)

- Generalized Theory of Electrical Machines
- Design of Electric Machines
- Condition Monitoring, Fault Diagnosis and Protection of Electrical Machines

Teaching Experiences

- Semnan University- Present Associate Professor
- Ferdowsi University of Mashhad-2010
- Khorasan Water & Power Industry Education and Research-2004
- Azad islamic University of Mashhad-2004-2006
- Azad islamic University of Bojnord-2004-2006, …

Research Projects

- Designing and Manufacturing of Multifunction Directional Overcurrent Relay (phase 1: Lab type)-2020
- Optimum Fault Current Limiter for Using in Toss Power Plant Substation, Khorasan Regional Electric Company (KREC), Mashhad, 2013-2014.
- Magnetic Condition Monitoring of Synchronous Generator, Mashhad Power Plant, Mashhad, 2009-2011.
- Electric Buchholz Relay, Khorasan Regional Electric Company (KREC), Mashhad, 2012-2013.
- Effect of Increasing the Grounding Grid Resistance of a Ground System at a Substation on the Safety and Transient Overvoltage on the Interior Equipments, Khorasan Regional Electric Company (KREC), Mashhad, 2011-2012.
- Voice Recognition by Multilayer Artificial Neural Network, K.N.Toosi University of Technology, 2001.

Research Supervision and Activities

5 doctoral dissertations and over 30 Master's thesis students

Doctoral Dissertations

Supervisors: Yosef Alinejad-beromi and Hamid Yaghobi

[1] Hossein Asgharpour-Alamdari, "Investigating the effects of windings types on flux distribution and harmonics to improve the performance characteristics of AC machines"

Supervisors: Hamid Yaghobi and Yosef Alinejad-beromi

[2] Hassan Zare, "Out of Step Prediction of Synchronous Generators in Power System Using Intelligent Algorithms"

Supervisors: Hamid Yaghobi and Yosef Alinejad-beromi

[3] Naser Noroozi, " synchronous generator loss of excitation detection based on local variables"

Supervisors: Yosef Alinejad-beromi and Hamid Yaghobi

Advisor: Danyal Bustan

[4] Hassan Moradi, " Sliding mode type-2 neuro-fuzzy power control of doubly fed induction generator (DFIG)"

Supervisors: Yosef Alinejad-beromi **Advisor**: Hamid Yaghobi

[5] Reza Ilka, " Multi-objective Design and Optimization of Permanent Synchronous Motors"

International Journals

[1] M. Rajabi Nasab, and H.Yaghobi," A Real-time out-of-step protection strategy based on instantaneous active power deviation", *IEEE Trans. Power Del.*, Accepted for publication, Dec. 2020

[2] H. Yaghobi," Transient stability enhancement of power system with instability tolerant synchronous generator," *IET Gen., Transm. Distrib.*, vol. 14, no. 21, pp. 4654-4665, November 2020.

[3] H. Yaghobi," An adaptive impedance-based out-of-step detection of synchronous generator without any network reduction," *IET Gen., Transm. Distrib.*, vol. 14, no. 5, pp. 762-773, March 2020.

[4] H. Yaghobi, "A New adaptive impedance-based loe protection of synchronous generator in the presence of statcom," *IEEE Trans. Power Del.*, vol. 32, no. 6, pp. 2489-2499, Dec. 2017.

[5] H. Yaghobi,"Impact of static synchronous compensator on flux-based synchronous generator loss of excitation protection", *IET Gen., Transm. Distrib.*, vol. 9, no. 9, pp. 874-883, Feb. 2015.

[5] H. Yaghobi,"Fast discrimination of stable power swing with synchronous generator loss of excitation," *IET Gen., Transm. Distrib.*, vol. 10, no. 7, pp. 1682-1690, May 2016.

[7] H. Yaghobi, "Fast predictive technique for reverse power detection in synchronous generator", *IET Electric Power Applications*, vol. 12, no. 4, pp. 508-517, 2018.

[8] H.Yaghobi, "Out-of-step protection of generator using analysis of angular velocity and acceleration data measured from magnetic flux", *ELSEVIER, Electric power system research*, vol. 132, pp. 9-21, 2016.

[9] N. Noroozi, H. Yaghobi, Y. Alinejad-Beromi, "Analytical technique for synchronous generator loss-of-excitation protection", *IET Gen., Transm. Distrib.*, vol. 11, no. 9, pp. 2222-2231, 2017.

[10] H.Zare, H.Yaghobi, Y.Alinejad-Beromi, "Adaptive concept of controlled islanding in power system for wide area out-of-step prediction of synchronous generators based-on adaptive tripping index", *IET Gen., Transm. Distrib.*, vol. 12, no. 16, pp. 3829-3836, 2018.
[11] N. Noroozi, Y. Alinejad-Beromi, H. Yaghobi, "A fast approach to detect generator loss of excitation based on reactive power variation", *IET Gen., Transm. Distrib.*, vol. 13, no. 4, pp. 453-460, Feb 2019.
[12] H. Asgharpour, Y. Alinejad-Beromi, H.Yaghobi, "Reduction in distortion of the synchronous generator voltage waveform using a new winding pattern", *IET Electric Power Applications*, vol. 11, no. 2, pp. 233-241, 2017.
[13] H. Asgharpour, Y. Alinejad-Beromi, H.Yaghobi, "Improvement of induction motor operation using a new winding scheme for reduction of the magnetomotive force distortion", *IET Electric Power Applications*, vol. 12, no. 3, pp. 323-331, 2018.
[14] R.Ilka, Y.Alinejad-Beromi, H.Yaghobi," Techno-economic design optimisation of an interior permanent-magnet synchronous motor by the multi-objective approach", *IET Electric Power Applications*, vol. 12, no. 7, pp. 972-978, 2018.
[15] H.Moradi, Y.Alinejad-Beromi, H.Yaghobi and D.Bustan," Sliding mode type-2 neuro-fuzzy power control of grid-connected DFIG for wind energy conversion system", *IET Renewable Power Generation*, vol. 13, no. 13, pp. 2435-2442, 2019.
[16] H.Moradi, H.Yaghobi, Y.Alinejad-Beromi, and D.Bustan," Power-control and speed-control mode of a DFIG using adaptive sliding mode type-2 neuro-fuzzy for wind energy conversion system ", *IET Renewable Power Generation*, DOI: 10.1049/iet-rpg.2019.1270 , November 2020
[17] M. Rajabi Nasab, and H.Yaghobi," An Analytical Method for Detecting Instability in Grid-connected Doubly-Fed Induction Generator", *IET Renewable Power Generation*, Accepted for publication, 2020.
[18] H.Yaghobi, H.Mortazavi,"A novel method to prevent incorrect operation of synchronous generator loss of excitation relay during and after different external faults", *International Transactions on Electrical Energy Systems (ETEP)*,vol. 25, no. 9, pp. 1717-1735, 2015.
[19] H.Yaghobi, H.Mortazavi, and et al., "Study on application of flux linkage of synchronous generator for loss of excitation detection", *International Transactions on Electrical Energy Systems (ETEP)*, vol. 23, no.6, pp.802-817, Sep.2013.
[20] H.Zare, Y. Ainejad-Beromi, H.Yaghobi, "Intelligent prediction of out-of-step condition on synchronous generators because of transient instability crisis", *International Transactions on Electrical Energy Systems (ETEP)*, vol. 29, no.1, pp.1-21, 2019.
[21] H.Yaghobi, H.Rajabi mashhadi, and K.Ansari,"Artificial Neural Network Approach for Locating Internal Faults in Salient-Pole Synchronous Generator", *ELSEVIER, Expert Systems with Applications*, vol.38, 2011, pp.13328–13341.
[22] S.Masumpoor, H.Yaghobi, and M. ahmadieh, "Adaptive sliding-mode type-2 neuro-fuzzy control of an induction motor", *ELSEVIER, Expert Systems with Applications*, vol. 42, pp. 6635-6647, Apr. 2015.
[23] R.Ilka, Y.Alinejad-Beromi, H.Yaghobi, "Cogging torque reduction of permanent magnet synchronous motor using multi-objective optimization", *ELSEVIER, Mathematics and Computers in Simulation*, vol. 153, pp. 83-95, 2018.
[24]M. Ardestani, N. Arish, and H. Yaghobi," A new HTS dual stator linear permanent magnet Vernier machine with Halbach array for wave energy conversion", ELSEVIER, Physica C: Superconductivity and its applications, vol.569, pp.1353593, 2020.
[25] H.Yaghobi, K.Ansari, and H.Rajabi mashhadi, "Stator Turn-to-Turn Fault Detection of Synchronous Generator Using Total Harmonic Distortion (THD) Analyzing of Magnetic Flux Linkage", *Iranian Journal of Science and Technology Transactions of Electrical Engineering (IJSTE)*, 2013, vol. 37, no. E2, pp 161-182.
[26] H. Asgharpour, Y. Alinejad-Beromi, H.Yaghobi, "A fuzzy-based speed controller for improvement of induction motor's drive performance", Iranian Journal of Fuzzy Systems, Vol.13, No.2, 2016, pp.61-70.
[27] H.Yaghobi, K.Ansari, and H.Rajabi mashhadi,"Analysis of Magnetic Flux Linkage Distribution in Salient-Pole Synchronous Generator with Different Kinds of Inter-Turn Winding Faults",

Iranian Journal of Electrical & Electronic Engineering (IJEEE), vol. 7, no. 4, Dec. 2011, pp.260-272.

[28] H.Yaghobi, and H. Kafash Haghparast, "Study on application of two different magnetic materials in rotor of cylindrical synchronous generator to produce reluctance torque", *Iranian Journal of Electrical & Electronic Engineering (IJEEE)*, vol. 11, no. 3, Sep. 2015, pp.253-264.

[29]H.Yaghobi," Stator Turn-to-Turn Fault Detection of Induction Motor by Non-Invasive Method Using Generalized Regression Neural Network", *Iranian Journal of Electrical & Electronic Engineering (IJEEE)*, vol. 13, no. 1, Mar. 2017, pp.77-88.

[30] M. Samami, H. Yaghobi and M. Niaz Azari, "Modelling and Simulation of a Transformer With Inter-turn Fault Including Saturation Effect and Variable Fault Parameters", *Iranian Journal of Electrical & Electronic Engineering (IJEEE)*, vol. 13, no. 2, Jun. 2017, pp. 170-182.

[31] R. Ilka, Y. Alinejad-Beromi and H. Yaghobi, "Geometry optimization of five-phase permanent magnet synchronous motors using bees algorithm", *Iranian Journal of Electrical & Electronic Engineering (IJEEE)*, vol. 11, no. 4, Dec. 2015, pp. 345-353.

[32]H.Yaghobi, H.Rajabi mashhadi, and K.Ansari, "Application of Radial Basis Neural Networks in Fault Diagnosis of Synchronous Generator", *Journal of Iranian Association of Electrical and Electronics Engineers(IAEEE)*, 2013,Vol.10- No.2- Fall & Winter 2013, pp.23-36.

[33] H. Yaghobi, "Out-of-step protection of synchronous generator in multi-machine power network by utilizing local variable", Journal of modeling in engineering, vol. 15, no. 51, Oct. 2017.

[34] M. J. Abbasi and H. Yaghobi, "A new combined method to diagnosis loss of excitation from stable power swing in doubly fed induction generator", Journal of modeling in engineering, vol. 15, no. 51, Oct. 2017.

[35] M. J. Abbasi and H. Yaghobi, "Loss of excitation detection in doubly fed induction generator by voltage and reactive power rate", *Iranian Journal of Electrical & Electronic Engineering (IJEEE*), vol. 12, no. 4, Dec. 2016, pp.270-280.

[36]E.Kamyab, J.Sadeh, H.Yaghobi, "Artificial Neural Network Approach for Islanding Detection in Inverter Based Distributed Generator with a Forced Transient in System Frequency",*Journal of Intelligent Systems in Electrical Engineering*,vol. 5, no. 4, pp. 103-114, Apr. 2015.

[37] M. Rajabi Nasab, and H.Yaghobi," Transient behavior analysis of grid-connected DFIG based wind turbine during power system faults", Energy *Engineering & Management*, Accepted for publication, 2020.

[38] Y.Alinejad-Beromi, H.Yaghobi, H.Asgharpour, R.Ilka, "Optimal Operating Point in Design of Transformer by Compensating the Effect of Tapchanger",*International Journal of Engineering & Technology Sciences (IJETS)*, 2 (1): 97-108, 2014.

[39] R.Ilka, Y.Alinejad-Beromi, H.Asgharpour, H.Yaghobi, "Design Optimization for Total Volume Reduction of Permanent Magnet Synchronous Generators",*International Journal of Smart Electrical Engineering*, Vol.2, No.3, summer 2013, pp.143-149.

[40] R.Ilka, Y.Alinejad-Beromi, H.Yaghobi, H.Asgharpour, "Design of Slotless BLDC Motor for Eliminating Cogging Torque",*Journal of World's Electrical Engineering and Technology*, 2014, J. World. Elect. Eng. Tech. 3(2): 67-73, 2014.

[41]H.Asgharpour, H.Ezadfar, R.Ilka, Y.Alinejad-Beromi, H.Yaghobi, "Comparison of Different Permanent Magnet Arrangements of BLDC Motors based on Finite Element Analysis",*International Journal of Mechatronics, Electrical and Computer Technology*, Vol. 4(12), Jul, 2014, pp. 1353-1365, ISSN: 2305-0543.

Conference Paper Publication & Presentation

[1] H.Yaghobi, H.Mortazavi, and et al., "A novel Flux-Based Method for Synchronous Generator Loss of Excitation Protection," *25th International Power System Conference*, PSC2010, Nov. 2010, Tehran, Iran.

[2] H.Yaghobi and E.Kamyab, "Study on location of power transformers with on-load tap changers in power transmission network", *21st Iranian Conference on Electrical Engineering*- ICEE2013-Mashhad, Iran (in Persian).
[3]N.Arish, H.Yaghobi and V.Teymoori, "Optimization and comparison of new linear permanent magnet vernier machine", *27th Iranian Conference on Electrical Engineering- ICEE2019-Yazd, Iran.*
[4] N.Arish, V.Teymoori, H.Yaghobi, and M. Moradi, "Design of new linear vernier machine with skew and halbach permanent magnet for wave energy converters," *34th International Power System Conference, PSC2019*, Dec. 2019, Tehran, Iran.
[5]M.Ardestani, Hamid Hefaz, N.Arish, and H.Yaghobi, "Electromagnetic analysis of partial and fully HTS. induction motor using finite element method", *28th Iranian Conference on Electrical Engineering- ICEE 2020-Tabriz, Iran.*
[6] M. Bashir**,** J. Sadeh**,** E. Kamyab**,**and H. Yaghobi, "Effect of Increasing the Grounding Grid Resistance of a Ground System at a Substation on the Safety and Transient Overvoltage on the Interior Equipments**",** *IEEE, 2012, 11th International Conference on Environment and Electrical Engineering, Italy.*
[7] S.Sobhani, H. Yaghobi, and M.Kariman Majd**, "**Replace the centrifugal switch in single-phase induction motor with intelligent electronic device to improve performance and efficiency**",** *IEEE, 2013, 12th International Conference on Environment and Electrical Engineering, Poland.*
[8] S.Sobhani, H. Yaghobi, and M. Samakoosh**, "**Optimize efficiency and torque in the single-phase induction motor by adjusting the design parameters**",** *IEEE, 2013, 12th International Conference on Environment and Electrical Engineering, Poland*.
[9] H.Valinejad and H.Yaghobi, "Simulation and performance improvement of shaded pole asynchronous motor", *21st Iranian Conference on Electrical Engineering*- ICEE2013-Mashhad, Iran (in Persian).
[10] H.yaghobi, and Teshnelab, "Voice Recognition by Multilayer Artificial Neural Network and Accomplish on TMS320C31", *21st Iranian Conference on Electrical Engineering-ISFS2007*-Mashhad, Iran, (in Persian).
[11] H.Yaghobi, H. Tabatabaei-Yazdi, "Effect of battery energy storage system on load frequency," *18th International Power System Conference, PSC2003*, Tehran, Iran, (in Persian).
[12] H.Yaghobi, H. Tabatabaei-Yazdi, "Modeling of Rechargeable Batteries Including Electrochemical and Thermal Features", *12st Iranian Conference on Electrical Engineering-ICEE2003*-Mashhad, Iran (in Persian).
[13]H.Yaghoobi, H.Tabatabaei-Yazdi, "Controlling Active and Reactive Power Using Electrical Energy Storage", *4 thConference on Quality and Productivty in Electric Industry*, 2003, Tehran Iran, (in Persian).
[14] A.Shariati, Z. Moravej, E. Kamyab, H. Yaghobi and D.Yazdanpanah, "Optimum Fault Current Limiter for using in Toss power plant substation", *5thElectric power generation Conference*,2013, Ahwaz, Iran, (in Persian).
[15] H.Yaghobi, H.Tabatabaei-Yazdi,"Electrical Energy Storage Systems," *1st Energy Conference*,2003,Khorasan, Mashhad, Iran, (in Persian).
[16] S.Cohjani, Y.Alinejad-Beromi, H.Yaghobi, "Evaluating static voltage stability using novel measurement capability and artificial intelligence", *12stIranian Conference on Artificial Intelligence*, Bam, Iran 2014 (in Persian).
[17] A. Goodarzi and H.Yaghobi, "Loss of excitation detection in DFIGs by using of stator flux linkage", *23rd Iranian Conference on Electrical Engineering*- ICEE2015-Tehran, Iran (in Persian).
[18]M.Mostaphavi, H.Yaghobi, M.E.Talebian, and H.Vafai Nejad, "Double-stator vernier PM machine", *First National Iranian Conference on development of Electrical Engineering* (in Persian).