|  |  |  |  |
| --- | --- | --- | --- |
| F:\Personal\Linkedin\prof.jpg | Name:  Current position:  Date of Birth:  Language: | Mohammad Bayat  **Assistant Professor**  Dec 29th, 1984  English, Persian |  |

**SUMMARY**

Lecturer and researcher with 7+ years of experience teaching courses in both undergraduate and postgraduate levels. Supervised/Advised 15 B.Sc. theses, and 14 M.Sc. theses. Published over 15 articles in peer-reviewed journals. In 2016, Mohammad joined the Department of Electrical Engineering, Arak University, Arak, Iran, where he is currently an Assistant Professor. His main areas of interest include the power system modeling and simulation, operation, planning, and management of smart micro-grids, integration of renewable energy resources, and numerical methods for electrical systems.

Mohammad is keen to join in academic position that will challenge him problem-solving skills and allow her to continue to develop her knowledge and potential.

**EDUCATION**

2010-2015 **Ph.D.** in Electrical Engineering (Power Systems), **Shahid Beheshti University** (Iran)

Thesis title: “*A Central Control Framework for Frequency and Voltage of the Smart Grid using Resources and Loads at Distribution Level*” (Grade: 20/20)

Thesis supervisor: Professor Keyhan Sheshyekani/Professor Alireza Rezazadeh

2007-2009 **M.Sc.** in Electrical Engineering (Power Systems), **Shahid Beheshti University** (Iran)

Thesis title: “*Maximum Power Point Tracking of Variable Speed Wind Turbines though Neural Network-based Adaptive Control*” (Grade: 19/20)

2002-2007 **B.Sc.** in Biomedical Engineering, **Amirkabir University of Technology-Tehran Polytechnic** (Iran)

Thesis title: “*Movement Intention Recognition from EEG Signals using Neural Networks*” (Grade: 19/20)

**PROFESSIONAL APPOINTMENTS**

2016-present **Assistant Professor of Department of Electrical Engineering**

Arak University · Full-time

Taught a total of 40+ undergraduate and 20+ postgraduate courses. Supervised/advised 15 and 14 B.Sc. and M.Sc. theses, respectively.

2010-2012 **Electrical Engineer**

MTS Group · Full-time

Mainly focused on substation design, and distribution systems.

**PUBLICATIONS**

* **M. Bayat**, M. M. Koushki, A. A. Ghadimi, M. Tostado-Véliz, and F. Jurado, “Comprehensive enhanced Newton Raphson approach for power flow analysis in droop-controlled islanded AC microgrids”, *International Journal of Electrical Power & Energy Systems*, vol. 143, pp. 108493, 2022.
* P. Sheikhzadehbaboli, A. Samimi, M. Ebadi, **M. Bayat**, and A. Pirayesh, “[Frequency control in standalone renewable based-microgrids using steady state load shedding considering droop characteristic](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=nGz0wOQAAAAJ&sortby=pubdate&citation_for_view=nGz0wOQAAAAJ:bEWYMUwI8FkC)”, *International Journal of Electrical Power & Energy Systems*, vol. 142, pp. 108351, 2022.
* M. Tostado-Véliz, A. A. Ghadimi, M. R. Miveh, **M. Bayat**, and F. Jurado, “[Uncertainty-aware energy management strategies for PV-assisted refuelling stations with onsite hydrogen generation](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=nGz0wOQAAAAJ&sortby=pubdate&citation_for_view=nGz0wOQAAAAJ:TFP_iSt0sucC)”, *Journal of Cleaner Production*, vol. 365, pp. 132869, 2022.
* S. A. A. Matin, S. A. Mansouri, **M. Bayat**, A. R. Jordehi, and P. Radmehr, “[A multi-objective bi-level optimization framework for dynamic maintenance planning of active distribution networks in the presence of energy storage systems](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=nGz0wOQAAAAJ&sortby=pubdate&citation_for_view=nGz0wOQAAAAJ:iH-uZ7U-co4C)”, *Journal of Energy Storage* vol. 52, pp. 104762, 2022.
* A. A. Ghadimi, M. Amani, **M. Bayat**, S. Ahmadi, M. R. Miveh, and F. Jurado, “Stochastic transmission expansion planning in the presence of wind farms considering reliability and N-1 contingency using grey wolf optimization technique”, *Electrical Engineering*, vol. 104, no. 2, pp. 727-740, 2022.
* M. Tostado‐Véliz, **M. Bayat**, A. A. Ghadimi, and F. Jurado, “[A novel Newton‐like method with high convergence rate for efficient power‐flow solution in isolated microgrids](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=nGz0wOQAAAAJ&sortby=pubdate&citation_for_view=nGz0wOQAAAAJ:g5m5HwL7SMYC)”, *IET Generation, Transmission & Distribution*, 2022.
* **M. Bayat**, K. Ghaseminezhad, and A. A. Ghadimi, “An efficient iterative approach for power flow solution of droop-controlled islanded AC microgrids through conventional methods”, *International Journal of Electrical Power & Energy Systems*, vol. 130, pp. 106962, 2021.
* M. Tostado-Véliz, **M. Bayat**, A. A. Ghadimi, and F. Jurado, “Home energy management in off-grid dwellings: Exploiting flexibility of thermostatically controlled appliances”, *Journal of Cleaner Production*, vol. 310, pp. 127507, 2021.
* A. Mahdavian, A. A. Ghadimi, and **M. Bayat**, “Microgrid small‐signal stability analysis considering dynamic load model”, *IET Renewable Power Generation*, vol. 15, no. 13, pp. 2799-2813, 2021.
* M. Ebadi, **M. Bayat**, and H. Asadi, “Evaluating maximum permissible feeder current in capacitive compensated harmonic polluted networks introducing Apparent RMS Current Ratio Index (ACRI)”, *Electric Power Systems Research*, vol. 187, pp. 106511, 2020.
* K. Sheshyekani, I. Jendoubi, M. Teymuri, M. Hamzeh, H. Karimi, and **M. Bayat**, “Participation of distributed resources and responsive loads to voltage unbalance compensation in islanded microgrids”, *IET Generation, Transmission & Distribution*, vol. 13, no. 6, pp. 858- 867, 2019.
* **M. Bayat**, K. Sheshyekani, M. Hamzeh, and A. Rezazadeh, “Coordination of Distributed Energy Resources and Demand Response for Voltage and Frequency Support of MV Microgrids”, *IEEE Transactions on Power Systems*, vol. 31, no. 2, pp. 1506- 1516, March 2016.
* **M. Bayat**, K. Sheshyekani, and A. Rezazadeh, “A unified framework for participation of responsive end-user devices in voltage and frequency control of the smart grid”, *IEEE Transactions on Power Systems*, vol. 30, no. 3, pp. 1369-1379, May 2015.
* A. Rezazadeh, M. Sedighizadeh, and **M. Bayat**, “Neural Inverse Control of Wind Energy Conversion Systems”, *International Review of Electrical Engineering (IREE)*, vol. 6, no. 3, pp. 1491-1502, 2011.
* **M. Bayat**, M. Sedighizadeh, and A. Rezazadeh,“ Wind energy conversion systems control using inverse neural model algorithm”, *International Journal of Engineering and Applied Science (IJEAS)*, vol. 2, no. 3, pp. 40-46, 2010.

**CONFERENCESS**

* A. Farahani, A. H. Abolmasoumi, and **M. Bayat**, “Fusion Estimation of Local Bus Frequency for Robust Wide Area Power System Stabilizer”, *7th International Conference on Control, Instrumentation and Automation (ICCIA)*, Tabriz, Iran, 2021.
* A. Farahani, A. H. Abolmasoumi, and **M. Bayat**, L. Mili, “A Fast Outlier-robust Fusion Estimator for Local Bus Frequency Estimation in Power Systems”, *10th Smart Grid Conference (SGC)*, Kashan, Iran, 2020.
* **M. Bayat**, A. A. Ghadimi, and M. Goudarzi, “Determining the share of exchange points from the power losses in Bakhtar Regional Power Grid”, *26th Iranian Conference on Electrical Engineering (ICEE)*, Sadjad University of Technology, Mashhad, Iran, 2018 (in Persian).
* A. A. Ghadimi, **M. Bayat**, and A. Mahdavian, “Microgrid small‐signal stability analysis considering dynamic load model”, *4th international conference of knowledge and technology of mechanical and electrical engineering of Iran*, Tehran, Iran, 2021 (in Persian).
* E. Nayyeri, **M. Bayat**, “Analysis of IPFC impacts on voltage profile improvement of power system”, *1st national conference on sustainable development in science, engineering and Iranian culture*, Tehran, Iran, 2018 (in Persian).
* E. Nayyeri, **M. Bayat**, “Optimal UPFC placement for voltage profile improvement using Harmony Search algorithm”, *1st national conference on sustainable development in science, engineering and Iranian culture*, Tehran, Iran, 2018 (in Persian).
* **M. Bayat**, H. K. Karegar, “Predictive control of wind energy conversion system,” *1st International Conference on the Developments in Renewable Energy Technology (ICDRET)*, Dehaka, Bangladesh, 2009.
* **M. Bayat**, H. K. Karegar, and M. Sedighizadeh,“ Impacts of wind energy conversion systems based on doubly fed induction generator on power quality,” *International Universities’ Power Engineering Conference (UPEC)*, Glasgow, Scotland, 2009.

**TEACHING EXPERIENCE**

**Undergraduate level courses**

* Electric Machinery (I)
* Power System Analysis (I & II)
* Substation Design
* Linear Control System Laboratory

**Graduate level courses**

* Power System Operation
* Power System Reliability
* Power Systems Dynamic
* Reactive Power Control

**RESEARCH EXPERIENCE**

* Loss allocation of in a typical distribution feeder of Arak distribution network. (2018-2019), in associated with Arak Distribution Company.
* Determining the share of exchange points from the power losses in Bakhtar Regional Power Grid (BRPG) through power tracing studies. (2016-2018), in associated with Bakhtar Regional Power Grid Company.
* Reviewer of the project entitled “Optimal allocation of power quality meters in order to determine the source and share of power quality pollutions”, (2020), in associated with Bakhtar Regional Power Grid Company.

**ADDITIONAL ACTIVITIES**

* Assistant guest editor for special issue on sutainability journal.
* Reviewer for several journals in IEEE Transactions and Elsevier publications.
* Reviewer of 4th national conference on Geospatial Information System (GIS) of Water and Electricity Industry.

**CORE SKILL SET**

**Research interests**

* Power system modeling and simulation
* Operation, planning, and management of smart micro-grids
* Integration of renewable energy resources
* Numerical methods for electrical systems (mainly focused on developing novel power flow methods, loss allocation and congestion management in power systems)
* Reliability Centered Maintenance (RCM)

**Software**

* Microsoft office
* Latex
* Matlab – Simulink
* GAMS
* Python
* ETAP
* Digsilent
* AutoCAD

**LANGUAGE**

English: Professional working proficiency

**MOBILITY**

Having 4-year residence card

**REFERENCES**

* Keyhan Sheshyekani, Full Professor, [Department of Electrical Engineering](https://www.polymtl.ca/expertises/en/recherche/expertises?f%5B0%5D=im_field_expertises_departement%3A18), Polytechnique Montreal, Montreal, Canada. Phone: (514) 340-4711 Ext. 4867, Email: [keyhan.sheshyekani@polymtl.ca](mailto:keyhan.sheshyekani@polymtl.ca)
* Francisco Jurado, Full Professor, Department of Electrical Engineering, University of Jaén, Jaén, Spain. Phone: +34 953 648518, Email: fjurado@ujaen.es
* Mostafa Sedighizadeh, Associate Professor,  [Faculty of Electrical Engineering](https://www.polymtl.ca/expertises/en/recherche/expertises?f%5B0%5D=im_field_expertises_departement%3A18), Shahid Beheshti University, Tehran, Iran. Senior Engineer, Integrated Transmission Planning (ITP), Little Rock, Arkansas, United States, Email: [[mos\_sedighizadeh@yahoo.com](mailto:mos_sedighizadeh@yahoo.com)](mailto:keyhan.sheshyekani@polymtl.ca)
* Morteza Kheradmandi, Associate Professor, [Faculty of Electrical Engineering](https://www.polymtl.ca/expertises/en/recherche/expertises?f%5B0%5D=im_field_expertises_departement%3A18), Shahid Beheshti University, Tehran, Iran, Email: [Kheradmandi@sbu.ac.ir](mailto:Kheradmandi@sbu.ac.ir)