

Quynh Tran
Postdoctoral fellow
GridSTART, Hawaii Natural Energy Institute
University of Hawaii at Manoa, Hawaii, USA
1680 East-West Rd, Honolulu, HI 96822

Work experience

Postdoctoral fellow 06/2019-present	GridSTART, Hawaii Natural Energy Institute University of Hawaii at Manoa, Hawaii, USA
Main activities and responsibilities	Study the production cost model for power system with the integration of renewable energy resources using PLEXOS software; Participated in the research and development of advanced power systems solution to enable grid integration of renewable energy while achieving efficient, secure, reliable and resilient grid operations. Collect data about existing distribution power system in Hawaii with high penetration of PV system; Design scenario ensembles for analysis projects, execute scenarios interpret results for reporting; Developing and implementing optimization power flow algorithms on distribution power system; Provide a report summarizing the total potential placement of SVC devices.
PhD student 10/2015 – 3/2019	Department of Energy, Information Engineering and Mathematic model, University of Palermo, Palermo, Italy
Main activities and responsibilities	Study the state of the art on Optimal Power Flow (OPF) calculation at present in power systems. Comparison and improvement of distributed and centralized OPF algorithms for islanded microgrid using MATLAB. Study of potential energy resources in an urban energy hub in relation to the urban and buildings features. Solution of the energy management problem and the optimal power flow in urban microgrids with time-series analysis. Check about frequency and voltage stability issues in both of grid-connected and islanded operation.
Researcher 08/2009 - present	Institute of Energy Science Vietnam Academy of Science and Technology, Hanoi, Vietnam
Main activities and responsibilities	Full-time researcher at Institute of Energy science, participating in research groups of Renewable Integration; Optimized development of Vietnam energy system with consideration about national security and sustainable development; Analysis and consulting related to electric power system expansion and planning at provincial and district level in Vietnam; Project manager assistant in different projects on the same field of my research.

Education and training

PhD of Energy and Information Technology 2015-2019	University of Palermo Palermo, Italy
Master of Electrical Engineering 2010-2012	Hanoi University of Science and Technology Hanoi, Vietnam
Bachelor of Electrical Engineering 2004-2009	Hanoi University of Science and Technology Hanoi, Vietnam

Additional Skills

Optimization software: PLEXOS, PSSE, Python, Matlab, and other energy optimization software.

Publication

1. "A reinforcement learning based distributed Optimal Power flow for islanded micro-grid"- The Power Systems Computation Conference, 2016
2. Frequency constrained optimal Power Flow based on Glow-worm Swarm Optimization in Islanded Microgrids, AEIT - Italian Association of Electrical, Electronics, Automation, Information and Communication Technology Conference, 2015.
3. Optimal power flow for technically feasible energy management systems in islanded microgrids, the 16 IEEE International Conference on Environment and Electrical Engineering, Florence, 2016.
4. A multi-agent system reinforcement learning based optimal power flow for islanded microgrids, the 16 IEEE International Conference on Environment and Electrical Engineering, Florence, 2016.
5. Nonlinear droop control for minimum power losses operation in islanded microgrids, 2017 IEEE International Conference on Environment and Electrical Engineering and 2017 IEEE Industrial and Commercial Power Systems Europe (IEEEIC / I&CPS Europe), Italy, 2017
6. Optimizing droop coefficients for minimum cost operation of islanded micro-grids, 2017 IEEE International Conference on Environment and Electrical Engineering and 2017 IEEE Industrial and Commercial Power Systems Europe (IEEEIC / I&CPS Europe), Italy, 2017
7. Improved Primary Regulation for Minimum Energy Losses in Islanded Microgrids, IEEE PES Innovative Smart grid Technologies, Europe, 2017

8. A distributed minimum losses optimal power flow for islanded microgrids, *Electric Power Systems Research* 152:271-283, DOI 10.1016/j.epsr.2017.07.014, 2017
9. A methodology for assessing the impact of salinity gradient power generation in urban contexts, *Sustainable Cities and Society* DOI 10.1016/j.scs.2017.12.037, 2017
10. Optimal Placements of SVC Devices in Low Voltage Grids with High Penetration of PV Systems, IEEE 9th International Symposium on Power Electronics for Distributed Generation Systems, Carolina, USA, 2018 – accepted.
11. Minimum power losses by using droop coefficients regulation method with voltage and frequency constraints in islanded microgrids, the 5th IEEE International Energy Conference (ENERGYCON), Cyprus, 2018- accepted.
12. Voltage profile improvement for Soc Son's low-voltage grid with high penetration of PV systems by optimizing the location of SVC devices, IEEE 18th International Conference on Environment and Electrical Engineering and 2nd Industrial and Commercial Power Systems Europe (IEEE EEEIC18) , Italy, 2018 – accepted.
13. Urban energy hubs economic optimization and environmental comparison in Italy and Vietnam, the 4th International Forum on Research and Technologies for Society and Industry (RTSI 2018), Italy, 2018.
14. Driven primary regulation for minimum power losses operation in islanded microgrids, *Energies*, *Energies*, vol. 11, 2018.
15. Ancillary Services in the Energy Blockchain for Microgrids, *IEEE Transactions on Industry Applications*, 2019.