



Reza Ghandehari

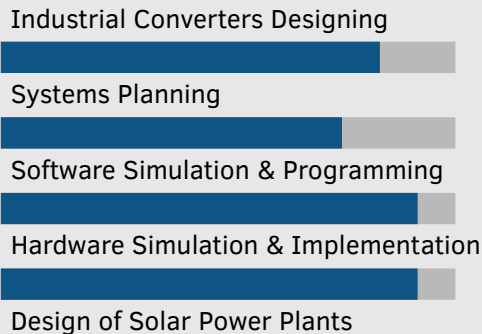
Associate Professor
Electrical Engineering School
Power Engineering
Shahid Rajaee University

- 9 May 1971
- Tehran, Iran, SRU
- +98 212-297-0006
- [Linkedin.com/in/reza-ghandehari-09411b1aa](https://www.linkedin.com/in/reza-ghandehari-09411b1aa)
- r_ghandehari@sru.ac.ir

About me

I received my B.Sc. degree in Power Engineering in 1994 from Iran University of Science and Technology and received the M.Sc. and Ph.D. degrees in 2002 and 2009, respectively, from Iran University of Science and Technology (IUST). My interests are power electronic, power quality, renewable energy, converter designing, HVDC systems and electrical machine and drives. I am currently associate professor in Shahid Rajaee University (SRU) of Tehran, Iran.

Skills



(*)[The skill scale is from 0 (Fundamental Awareness) to 6 (Expert).]

Interests

- Power Electronics - Converter Designing & New Converter Topologies
- Power Quality - Harmonic Studies of Power Systems
- Renewable Energy - Solar & Wind Energy Converters, PV Reconfiguration, DFIGs
- HVDC Systems - Converters and Reinjection Topologies
- Electrical Machine and Drives

Education

- 2003-2009 Ph.D. in Power Engineering, Iran University of Science and Technology, Tehran.
Effects of AC/DC Converters on the Power Networks
- 1999-2002 M.Sc. in Power Engineering, Iran University of Science and Technology, Tehran.
Arresters and Snubbers design of HVDC Valves

Membership of the Scientific Societies

- IEEE Senior Member- Industrial Electronic society
- Power Electronic Society of Iran
- IEC Standard, Iran Section

Professional Background

- 2021 Selected of National Industrial Research Projects;
- 2020 Technical Chair of 11th PEDSTC-2020 Conference;
- 2020 One of The best professor of the university;
- 2016-2022 Dean of Electrical Engineering Faculty, *Shahid Rajaee University*;
- 2012-2015 Deputy of Education and Research, *Electrical Engineering Faculty*;
- 2011-2012 Head of Power Department, *Electrical Engineering Faculty*.

Referee for Scientific Journals

- IEEE Transaction on Power Electronics
- IEEE Transaction on Power Systems
- IEEE Transaction on Power Delivery
- IEEE Transaction on Industrial Electronics
- IEEE Transaction on Industry Applications
- IEEE Transactions on Industrial Informatics
- IEEE Journal of Photovoltaic
- Energy Conversion And Management
- Applied Energy
- Solar Energy
- IET Renewable Power Generation

Industrial and Research Projects

- Design and implementation of 16 channels, 150 kS/sec sampling circuit for evaluation of power quality;
- Design and implementation of 4 insulated channels, 10 MS/sec sampling circuit for special sensors;
- Design and implementation of grid-tie inverters;
- Design and implementation of industrial drives and inverters;
- Design and implementation of resonance induction furnace;
- Research on short-circuit current limiters;
- Design and implementation of special Buck and Boost converters;
- Design and implementation of power supply for actuator of natural gas internal combustion engine;
- Design and implementation of a real time simulator of wind power generation based on DFIG;
- Design and implementation of 2 channels boost interleaved converter;
- FPGA base control of the DFIG systems.

Publications in Journals

- 1) 2024 S. Najafpour, R. Ghandehari, 'A simple 60-pulse voltage source inverter using voltage reinjection strategy to improve voltage harmonics for high-power local loads', *IET Power Electronics*.
- 2) 2024 M. Akbari, S.A. Davari, R. Ghandehari, F. Flores-Bahamonde, J. Rodriguez, 'Model-Free Predictive Current Controller for Common Mode Voltage Stabilization by Finite odd Virtual Vector set', *IEEE Open Journal of the Industrial Electronics Society*.
- 3) 2022 M. Babaei, R. Ghandehari, M. Asadi, 'Voltage Equalization of DC Link capacitors in a CHB-Based PET under the Unbalance Voltage Conditions', *Journal of Iranian Association of Electrical and Electronics Engineers*.
- 4) 2022 F. Torkian, R. Ghandehari, 'Power recovery of the PV arrays under partial shading by a power electronic compensator', *Solar Energy*.
- 5) 2021 P. Naderi, R. Ghandehari, 'Comprehensive analysis on a new type VR-resolver with toroidal windings under healthy and eccentric cases', *IEEE Transactions on Industrial Electronics*.
- 6) 2021 M. Babaei, R. Ghandehari, 'Flexible control for power-sharing in the CHB-based SST under voltage unbalance conditions', *IET Power Electronics*.
- 7) 2021 A. Mirzakhani, R. Ghandehari, S.A. Davari, 'Performance improvement of DPC in DFIGs during unbalanced grid voltage based on extended power theory', *Ain Shams Engineering Journal*.
- 8) 2021 R. Ghandehari, P. Naderi, L. Vandeveld, 'Performance analysis of a new type PM-resolver in healthy and eccentric cases by an improved parametric MEC method', *IEEE Transactions on Instrumentation and Measurement*.
- 9) 2021 P. Naderi, R. Ghandehari, M. Heidary, 'A comprehensive analysis on the healthy and faulty two types VR-resolvers with eccentricity and inter-turn faults', *IEEE Transactions on Energy Conversion*.
- 10) 2020 M. Babaei, R. Ghandehari, M. Asadi, 'Voltage unbalance compensation based on optimal current injection by SSTs', *IEEE Transactions on Industrial Electronics*.
- 11) 2019 M. Horoufiany, R. Ghandehari, 'A new photovoltaic arrays fixed reconfiguration method for reducing effects of one and two sided mutual shading', *Transactions of the ASME, Journal of Solar Energy Engineering*.
- 12) 2019 G. Mostafaei, R. Ghandehari, 'Power enhancement of photovoltaic arrays under partial shading conditions by a new dynamic reconfiguration method', *Journal of Energy Management and Technology (JEMT)*.
- 13) 2019 A. Mirzakhani, R. Ghandehari and S. A. Davari, 'Modeling and dynamic response of double-feed induction generator and back-to-back converters in unbalanced grid voltage conditions', *Wind Engineering*.
- 14) 2018 A. Mirzakhani, R. Ghandehari and S. A. Davari, 'A new DPC-based control algorithm for improving the power quality of DFIG in unbalance grid voltage conditions', *International Journal of Renewable Energy Research*.
- 15) 2018 M. Horoufiany, R. Ghandehari, 'Optimization of the Sudoku based reconfiguration technique for PV arrays power enhancement under mutual shading conditions', *Solar Energy*.
- 16) 2018 M. Horoufiany, R. Ghandehari, 'Economic estimation of installing solar arrays at the unit area of photovoltaic power plants by using rearrangement of arrays', *Energy Engineering and Management Journal*.

- 17) 2017 M. Horoufiyany, R. Ghandehari, 'Optimal fixed reconfiguration scheme for PV arrays power enhancement under mutual shading conditions', *IET Renewable Power Generation*.
- 18) 2017 P. Naderi, R. Ghandehari, 'Modeling and stator inter-turn short circuit fault detection for saturable salient pole synchronous machine by a non-linear magnetic equivalent circuit approach', *International Journal of Numerical Modelling-Electronic Networks Devices And Fields*.
- 19) 2013 P. Naderi, R. Ghandehari, 'Full modeling and simulation of fuel-cell battery hybrid vehicle and power management controller design', *International Journal of Modelling and Simulation*.
- 20) 2012 R. Mousavi, P. Amiri, R. Ghandehari and J. Sadoughi, 'Elimination of flicker, harmonic and voltage drops by modelling and simulation of power electronic device', *International Review of Automatic Control*.
- 21) 2012 R. Ghandehari, Z. Mousavi, and N. Ghaffari, 'DFIG grid-synchronization control of a WECSBased on matrix converter', *Engineering Science and Technology Journal*.
- 22) 2012 S. Nateghi, R. Ghandehari, 'A novel and fast technique for harmonic reduction based on wavelet analysis and active filter in wind farms', *International Journal of Modelling and Simulation*.
- 23) 2012 A.M.Zare Zadeh, R. Ghandehari, 'Improved Mayr model of electrical arc furnace to analyse harmonic', *Applied Mechanics and Materials*.
- 24) 2010 M. R. AlizadehPahlavani, R. Ghandehari, A. Naghashpour and H. A. Mohammadpour, 'Power quality enhancement using gate-controlled series capacitor', *Review of Electrical Engineering Journal*.
- 25) 2009 R. Ghandehari, A. Shoulaie, 'Experimental investigation of high frequency oscillations due to voltage notch of AC/DC converters', *International Review of Electrical Engineering*.
- 26) 2009 R. Ghandehari, A. Shoulaie, 'Evaluating voltage notch problems arising from AC/DC converter operation', *IEEE Transactions On Power Electronics*.
- 27) 2009 R. Ghandehari, A. Shoulaie, 'Experimental investigation of high frequency oscillations due to voltage notch of AC/DC converters', *International Review of Electrical Engineering Journal*.
- 28) 2009 H. Atighechi, R. Ghandehari, A. Shoulaie, 'Accurate analysis of effective parameters on design of induction furnace using voltage source inverter', *International Review of Modeling and Simulations Journal*.

Publications in International Conferences

- 1) 2025 S. A. Jalalkhoshnevis, S. A. Davari, R. Ghandehari, R. Zolfagharian, F. Flores-Bahamonde, M. S. Mousavi, C. Garcia, J. Rodriguez, 'Optimization of Flying Capacitor Voltage for Predictive Control of Open-Winding Permanent Magnet Synchronous Motor Drive', *2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG)*.
- 2) 2024 S. A. Jalalkhoshnevis, S. A. Davari, R. Ghandehari, M. S. Mousavi, F. Flores-Bahamonde, C. Garcia, J. Rodriguez, 'Optimization of dual inverter's dc voltages for predictive control of permanent magnet synchronous motor drive', *2024 IEEE International Conference on Automation/XXVI Congress of the Chilean Association of Automatic Control (ICA-ACCA)*.
- 3) 2023 M. Akbari, S. A. Davari, R. Ghandehari, F. Flores-Bahamonde, J. Rodriguez, 'Reduction of calculations virtual voltage vectors-based predictive control for 3-level NPC inverters with constant common-mode voltage', *2023 IEEE International Conference on Predictive Control of Electrical Drives and Power Electronics (PRECEDE)*.
- 4) 2023 M. Akbari, S. A. Davari, R. Ghandehari, F. Flores-Bahamonde, C. Garcia, J. Rodriguez, 'Predictive Control Using Virtual Voltage Vectors for Three-Level Neutral-Point Clamped Inverters With Constant Common-Mode Voltage', *2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG)*.
- 5) 2023 M. Akbari, S. A. Davari, R. Ghandehari, F. Flores-Bahamonde, J. Rodriguez, 'Leakage Current Reduction in Four-leg Inverter Utilizing Three-Dimensional Virtual Voltage Vector-based Predictive Control', *14th Power Electronics, Drive Systems, and Technologies Conference (PEDSTC 2023), Babol, Iran*.
- 6) 2023 M. Akbari, S. A. Davari, R. Ghandehari, F. Flores-Bahamonde, J. Rodriguez, 'Using three-dimensional virtual voltage vector in predictive current control of a four-leg inverter for fixing common-mode voltage', *14th Power Electronics, Drive Systems, and Technologies Conference (PEDSTC 2023), Babol, Iran*.
- 7) 2022 S. Najafpour, R. Ghandehari, 'Voltage Reinjection vs PWM: a Comprehensive Comparison to Improve the Harmonic situation', *13th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2022), Tehran, Iran*.
- 8) 2022 S. Najafpour, A.H. Dehghan, R. Ghandehari, 'Voltage Reinjection: Optimizing the Cost and Size of the Interface Transformer in 12-pulse Converters', *13th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2022), Tehran, Iran*.
- 9) 2021 M. Akbari, S.A. Davari, R. Ghandehari, C. Garsia, J. Rodriguez, 'Virtual Voltage Vector Based Predictive Control of High Performance Modified Quasi-Z-Source Inverter with the Aim of Constant Common-Mode Voltage', *12th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2021), Tabriz, Iran*.
- 10) 2021 S. Najafpour, R. Ghandehari, 'Harmonic Reduction by Voltage Reinjection Strategy in 12-Pulse VSI for High Power Applications', *12th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2021), Tabriz, Iran*.
- 11) 2020 R. Ghandehari, 'Training on the comprehensive and practical designing process of power electronic converters', *11th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2020), Tehran, Iran*.
- 12) 2020 A. Mirzakhani, R. Ghandehari and S. A. Davari, 'A novel method to reduce power oscillations of DFIG in unbalance grid voltage conditions', *11th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2020), Tehran, Iran*.

- 13) 2020 A. Mirzakhani, R. Ghandehari and S. A. Davari, 'Reduction of electromagnetic torque oscillations of DFIG based on DPC in unbalanced grid voltage condition', *11th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2020), Tehran, Iran.*
- 14) 2020 M. Akbari Nodehi, S. A. Davari, R. Ghandehari, M. Norambuena and J. Rodriguez, 'Using virtual voltage vectors in predictive control of three-phase inverters for fixing common-mode voltage', *11th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2020), Tehran, Iran.*
- 15) 2017 R. Ghandehari, A. Mirzakhani, 'A Method for detecting the rotor electromagnetic flow of double fed induction generator', *18th International Symposium on Electromagnetic Fields in Mechatronics (ISEF 2017), Lodz, Poland.*
- 16) 2014 R. Ghandehari, M. Jalil, P. Naderi, 'A novel structure for parallel hybrid active power filters with series resonant circuits', *5th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2014), Tehran, Iran.*
- 17) 2013 J. Sadoughi, R. Ghandehari, P. Amiri, 'Comparison and simulation of rotor flux estimators in stationary and rotating reference frame in the vector control of induction Motors for low-speed applications', *4th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2013), Tehran, Iran.*
- 18) 2013 S. Ghaderi, N. Vasegh, R. Ghandehari, 'Fuzzy pitch angle control of wind hybrid turbine', *International Conference on Information, Communication and Automation Technologie (ICAT 2013), Sarajevo, Bosnia.*
- 19) 2013 S. Mohamadian, R. Ghandehari, A. Shoulaie, 'A comparative study of AC/DC converters used in high current applications', *2th Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2011), Tehran, Iran.*
- 20) 2012 P. Amiri, J. Sadoughi R. Ghandehari, M. Cheshfar, 'Presentation of a modern method in teaching modeling and converting PWM switches of DC-DC converter', *International Conference on Educational Research (CY-ICER 2012), Istanbul, Turkey.*
- 21) 2012 H. Abniki, S. Nateghi, R. Ghandehari, M. Nabavi Razavi, 'Harmonic analyzing of wind farm based on harmonic modeling of power system components', *11th International Conference on Environment and Electrical Engineering (EEEIC 2012), Venice, Italy.*
- 22) 2010 D. Habibinia, R. Ghandehari, H. Khalilpoor, 'Study of inverter and rectifier substations islanding fault in HVDC system and comparison between different control protective methods', *International Symposium on Power Electronics Electrical Drives Automation and Motion (SPEEDAM 2010), Pisa, Italy.*
- 23) 2009 B. Zohouri Zanganeh, R. Ghandehari, H. Mohammadpour, D. Habibinia, 'Optimum operation of overhead transmission lines respect to climate condition', *International Power System Conference (PSC 2009), Tehran, Iran.*
- 24) 2007 D. Habibinia, A. Shoulaie, R. Ghandehari, 'Implementation a novel control-protective scheme on laboratorial HVDC system to distinguish between transient and steady state faults', *42nd International Universities Power Engineering Conference (UPEC 2007), Brighton, UK.*
- 25) 2007 R. Ghandehari, A. Shoulaie, D. Habibinia, 'The problems of voltage notch phenomena in power AC/DC converters', *42nd International Universities Power Engineering Conference (UPEC 2007), Brighton, UK.*
- 26) 2004 R. Ghandehari, A. Jalilian, 'Economical impacts of power quality in power systems', *39nd International Universities Power Engineering Conference (UPEC 2007), Brighton, UK.*