



Beirut Arab University
Electrical & Computer Engineering Department
Electrical Power and Machines Engineering Program
Mohamad Tarnini CV

1. Name and Academic rank: Mohamed Tarnini, Professor, full time at Beirut Arab University. Electric Power and Machines Program Coordinator



2. Education: Degrees, discipline, institution and date:

Ph.D., Electrical Engineering, (power and control department) Beirut Arab University 2010

M.S., Electrical Engineering, Beirut Arab University 2004

B.S., Electrical Engineering, Beirut Arab University, 1994

3. Academic experience

- Beirut Arab University, 2011- present, full time
- Hariri Canadian University, Assistant Professor, 2004- 2011

4. Nonacademic experience

- Water International Company Manager of Electromechanical department 1998- 2012
- Senior Engineer in Electromechanical company EMAC in Abu Dhabi 1994 – 1998
- Designs and implement a full 5-kVA PV system for his power-machines Lab in BAU Debbie campus.
- Prepared the technical specifications and tender documents for the renewable energy project, including the design and installation of a solar photovoltaic (PV) system at Beirut Arab University (500kW on-grid PV solar energy project)

5. Certification of Professional Registration

- Order of Engineering Lebanon

6. Current membership in professional organizations

- University Accreditation Committee of the Lebanese Ministry of Education
- IEEE, Power Electronic Member
- Order Eng. Lebanese Member
- World Congress of Engineering and Computer Science WCECS Committee Member
- Innovative for Lebanon competition member
- Lebanese standards institution ENERGY committee member (LIBNOR)



7. Honors and Awards:

IEEE EPEC 1ST place Paper Award Nova Scotia Canada

First-Place Award, A Smart 3 phase induction motor smooth drive, Innovative for Lebanon National Competition (machine and drive track), Rafic Hariri University, May 2018.

2nd place Award, non-coils electronic transformer, in AUB Innovative school's competition May 2007

8. Service activities

- 2015-2026 IEEE industrial electronic reviewer committee
- 2016-2026 Power program coordinator
- 2016-2025 Faculty council member
- 2012 – 2026 Schedule Program Member (BAU)
- 2011 – 2019 Faculty's library Member (BAU)
- 2014 - 2017 Students Activities Member.
- 2015 - 2026 ABET evaluation committee member
- 2012 - 2025 Member of the University's Scientific Research Committee
- 2014 – 2026 Entrance exam committee
- 2024 – 2026 SREC University committee member

9. Principal publications and presentations from the last five year

- 1- El Ghaly, A., Hamdan, A., & Tarnini, M. (2026). Stability analysis of photovoltaic grid-connected power systems employing virtual synchronous generator control. International Journal of Power Electronics and Drive Systems, 17(2), 1451–1461. <https://doi.org/10.11591/ijpeds.v17.i2.pp1451-1461>
- 2- A. El Ghaly, M. Tarnini, and K. Chahine, "A Robust Reference Extraction Method for Shunt Active Power Filters Based on Nonlinear Control Under Distorted and Unbalanced Conditions," Measurement, vol. 241, p. 115664, Jan. 2025
- 3- A Neural Network-Based Model Predictive Control for a Grid-Connected Photovoltaic-Battery System with Vehicle-to-Grid and Grid-to-Vehicle Operations Dankar, Ossama, Tarnini, Mohamad Youssef, El Ghaly, Abdallah, Chahine, Khaled. Electricity Open source preview, 2025, 6(2), 32
- 4- O. Dankar, M. Tarnini, A. El Ghaly, N. Moubayed, and K. Chahine, "A Neural Network-Based Model Predictive Control for a Grid-Connected Photovoltaic-Battery



- System Supporting EV Charging Infrastructure," *Electricity*, vol. 6, no. 2, pp. 32-54, Mar. 2025.
- 5- A El Ghaly, M Tarnini, Z Al Barakeh, K Chahine - Results in Engineering, 2024 - Elsevier "Compensating voltage waveform distortions using a practical topology of series active power filters"
 - 6- El Ghaly, A., Hamdan, A., & Tarnini, M. (2026). Stability analysis of photovoltaic grid-connected power systems employing virtual synchronous generator control. *International Journal of Power Electronics and Drive Systems*, 17(2), 1451–1461. <https://doi.org/10.11591/ijpeds.v17.i2.pp1451-1461>
 - 7- A El Ghaly, M Tarnini, K Chahine - Measurement, 2025 - Elsevier "A robust reference extraction method for shunt active power filters in the presence of noise and source voltage distortion"
 - 8- Taha Ahmad Hussein, Dahaman Ishak, Mohamad Tarnini "A Three-Phase Multilevel Inverter Synthesized with 31 Levels and Optimal Gating Angles Based on the GA and GWO to Supply a Three-Phase Induction Motor" *Energies* 2024, 17(5), 1267; <https://doi.org/10.3390/en17051267>. Measurement 242(11)DOI: 10.1016/j.measurement.2024.116243
 - 9- Mohamad Tarnini; Mohammad Alsayed; Abdallah El Ghaly; Khaled Chahine "Towards Energy Sustainability in University Campuses: A Case Study of Beirut Arab University" *MDPI Sustainability* 2023, 15(9), 7695; <https://doi.org/10.3390/su15097695>
 - 10- M. Tarnini, K. Saab A. El Ghaly "A Power Electronic Controller Based Algorithm for Output Power Prediction of a PV Panel" September 2023 *International Journal of Renewable Energy Research* 13(3):1194-1199 DOI:10.20508/ijrer.v13i3.13946.g8791
 - 11- K. Chahine, M. Tarnini, N. Moubayed, and A. El Ghaly, "Power Quality Enhancement of Grid-Connected Renewable Systems Using a Matrix-Pencil-Based Active Power Filter," *Sustainability*, vol. 15, no. 1, p. 887, Jan. 2023, doi: 10.3390/su15010887.
 - 12- Abdallah El Ghaly ¹,Mohamad Tarnini ¹,Nazih Moubayed ² andKhaled Chahine³ "A Filter-Less Time-Domain Method for Reference Signal Extraction in Shunt Active Power Filters" **Energies**, Volume 15, Issue 15 (August-1 2022)
 - 13- Ziad Bou Sakr, El-Bayeh Claude Tarnini Mohamad "Application in Virtual System Modelling (VSM) of Sensored Pm BLDC Motor Drive Using Two Technologies of Processors PIC16F877A and Arduino Uno R3 " Vol1/Issue-2 *Energy ,Environment and Storage Journal* 2021.
 - 14- Nabil Abdel-Karim, Mohamad Tarnini, "Design of a Low Cogging Torque Axial Flux Multilayer Permanent Magnet Synchronous Machine for Wind Turbines Applications". *International Journal for Renewable Energy Research* Vol.8, No.3, September, 2018

9.3 Conference Proceedings

- 1- Mohamad Tarnini, Abdallah El Ghaly,Nazih Moubayed "SVPWM Inverters for Photovoltaic Systems Applications" 2023 IEEE 4th International Multidisciplinary Conference on Engineering Technology (IMCET)
- 2- Abdallah El Ghaly; Mohamad Tarnini; Nazih Moubayed Khaled Chahine "Hybrid Active Power Filter Using a Filter-Less Extraction Technique" 2022 11th International Conference on Renewable Energy Research and Application (ICRERA)



10. Professional development activities in the last five years

- IEEE-ICRERA2022- Outstanding paper Award-Istanbul Turkey
- IEEE EPEC Paper Award Nova Scotia Canada
- World Congress of Engineering and Computer Science WCECS Committee Member
- Producing an artificial pure sin-wave Inverter sale in Lebanese market
- Designs and implement a full 5-kVA PV system for power-machines Lab in BAU Debbieh campus.