1. **Name and Academic rank:** Mohamed Tarnini, **Full** 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, Associate Professor, 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.
   - Technical Specifications supervision, and Tender Conditions for the Renewable Energy Project 500kW on-grid PV at Beirut Arab University

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

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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
- 2016-2026 Faculty council member
- 2012 – 2025 Schedule Program Member (BAU)
- 2011 – 2022 Faculty's library Member (BAU)
- 2014 - 2019 Students Activities Member.
- 2015 - 2026 ABET evaluation committee member
- 2012 - 2026 Member of the University's Scientific Research Committee
- **2024 - 2026** SREC University council member

9. Principal publications and presentations from the last five year

9.1 Textbook

9.2 Journal Publications

1- neural network-based model predictive control for a grid-connected photovoltaic–battery system with vehicle-to-grid and grid-to-vehicle operations. O Dankar, M Tarnini, A El Ghaly, N Moubayed, K Chahine Electricity 6 (2), 32, 2025
2- A robust reference extraction method for shunt active power filters in the presence of noise and source voltage distortion A El Ghaly, M Tarnini, K Chahine. Measurement 242, 116243, 2025
3- 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. TA Hussein, D Ishak, M Tarnini. Energies 17 (5), 1267, 2024
4- Simplified Control for Torque and Speed Ripple Mitigation in Brushless DC Motors. A El Ghaly, M Tarnini International Journal of Smart Grid-ijSmartGrid 8 (1), 12-19, 2024
5- Simulation of Neural Network-Based Model Predictive Control for Bidirectional EV Charging in Grid-Connected PV-Battery Systems. O Dankar, M Tarnini, A El Ghaly, K Chahine, N Moubayed 2025 4th International Conference on Smart Grids and Energy Systems (SGES ..., 2025)
6- Single Input Double Output DC-DC Converter Topology Using a Band Stop

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Filter. M Alsayed, M Tarnini, M El Rafei, AS El Ghaly
International Journal of Renewable Energy Research (IJRER) 15 (4), 697-707, 2025

7- 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
8- Reduced components count with optimal switching for minimum THD in multilevel inverter. TA Hussein, DI DahamanIshak, M Tarnini. Przegląd Elektrotechniczny 100, 2024
9- 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
10- A Grid-Tied Photovoltaic-Battery System for Bidirectional Electric Vehicle Charging. O Dankar, M Tarnini, A El Ghaly, N Moubayed, K Chahine. 2025 15th International Conference on Electrical Engineering (ICEENG), 1-7, 2025
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 Chahine[3] "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)

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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.
- Design, study and currently supervise the 500kW on-grid PV solar energy project at Beirut Arab University

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