



UNIVERSITÀ
degli STUDI
di CATANIA

DIPARTIMENTO di INGEGNERIA INDUSTRIALE
ELETTRICA ELETTRONICA
e INFORMATICA

Il sottoscritto Luigi Danilo Tornello, nato a Caltagirone il 13/09/1990, consapevole, ai sensi dell'art. 76 del D.P.R. 445/2000, che dichiarazioni mendaci, formazione o uso di atti falsi sono puniti ai sensi del codice penale e delle leggi speciali in materia,

DICHIARA:

**CURRICULUM DELL'ATTIVITÀ
SCIENTIFICA E DIDATTICA
DI
LUIGI DANILO TORNELLO**

Assistant Professor of Power Electronic Converters, Electrical Machines and Drives

Department of Industrial, Electrical, Electronic and Computer Engineering

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📍 Cittadella universitaria Via Santa Sofia, 64 95123 – Catania, Italy

CURRENT POSITION

- March 2023 – Present: Assistant Professor in Power Electronic Converters, Electrical Machines and Drives, in the University of Catania, Italy.

PREVIOUS POSITIONS

- [16/01/2022 - 16/01/2023]: Research Fellow in the Power Electronics Converters, Electrical Machines and Drives, Research Group, Department of Industrial, Electrical, Electronics and Computer Engineering (DIEEI), University of Catania, Italy. Research project titled "Electric traction solutions development through the use of power converter with WBG technologies", supervisor: prof. Giacomo Scelba.
- [24/04/2018 – 31/10/2018]: Research Scholarship in the Power Electronics Converters, Electrical Machines and Drives, Research Group, Department of Industrial, Electrical, Electronics and Computer Engineering (DIEEI), University of Catania, Italy. Research project titled "Study of Next-Generation Optimized Electric Drives for Civil and Industrial Applications", supervisor: prof. Mario Cacciato.
- [21/11/2017 – 21/03/2018]: Research Scholarship in the Power Electronics Converters, Electrical Machines and Drives, Research Group, Department of Industrial, Electrical,

Electronics and Computer Engineering (DIEEI), University of Catania, Italy. Research project titled " Study and Development of IGBT Models for Implementation in HIL Systems with FPGA", supervisor: prof. Mario Cacciato.

EDUCATION

- July 2025: Abilitazione Scientifica Nazionale alle funzioni di professore universitario di seconda fascia nel Settore Concorsuale 09/E2 – INGEGNERIA DELL'ENERGIA ELETTRICA.
- January 2022: Ph.D in System, Energy, Computer and Telecommunication Engineering at the University of Catania, Italy; thesis entitled "Investigation of Approaches for Improving the Performance of Sensorless and Sensor-based AC Motor Drives", advisor prof. Giacomo Scelba.
- July 2017: Master Degree in Electrical Engineering with 110/110 cum laude at the University of Catania, Italy; thesis: "Parameters Identification in Double Three-Phase Permanent Synchronous Motor Drives"; advisor, prof. Giuseppe Scarcella.

TEACHING ACTIVITIES

- A.Y. 2025/2026, co-teaching of "Fundamental of Power Electronics", 3 ECTS, 30 hours, for Master's Degree in Electrical Engineering for Sustainable Green Energy Transition – 1st Year, University of Catania.
- A.Y. 2025/2026, co-teaching of "Dynamics of Electrical Machines", 3 ECTS, 30 hours, for Master's Degree in Electrical Engineering for Sustainable Green Energy Transition – 2nd Year, University of Catania.
- A.Y. 2024/2025, co-teaching of "Fundamental of Power Electronics", 3 ECTS, 30 hours, for Master's Degree in Electrical Engineering for Sustainable Green Energy Transition – 1st Year, University of Catania.
- A.Y. 2024/2025, co-teaching of "Dynamics of Electrical Machines", 3 ECTS, 30 hours, for Master's Degree in Electrical Engineering for Sustainable Green Energy Transition – 2nd Year, University of Catania.
- A.Y. 2023/2024, co-teaching of "Fundamental of Power Electronics", 3 ECTS, 30 hours, for Master's Degree in Electrical Engineering for Sustainable Green Energy Transition – 1st Year, University of Catania.
- A.Y. 2023/2024, co-teaching of "Electrical Drives for Energy Efficiency", 3 ECTS, 30 hours, for Master's Degree in Electrical Engineering for Sustainable Green Energy Transition – 2nd Year, University of Catania.
- A.Y. 2022/2023, co-teaching of "Electrical Drives", 3 ECTS, 30 hours, for Master's Degree in Electrical Engineering for Sustainable Green Energy Transition – 2nd Year, University of Catania.

TEACHING MOBILITY

- May 2024, in the Faculty of Electrical Engineering and Information Technology of the University of Zilina (FEEIT UNIZA), Slovak Republic, gave speeches for master's and doctoral students for a total of 15 hours in the lectures on an overview of the speed loop

controllers tuning design methods applied for motor drives. In particular, the standard PI-based, IP-based and two-degree of freedom (2DOF-PI) will be presented, and the design approaches will be based on command-tracking and torque load disturbance rejection desired specifications. The resolution on the performances and stability of variable speed drives, taking into consideration the dynamics of speed controller and speed estimation algorithms. Selection procedures to identify the minimum sensor resolution will be presented as well.

SUPPLEMENTARY TEACHING ACTIVITIES

- [08/10/2021 - 19/01/2022] University Tutor (60 hours) for the MSc in Electrical Engineering (LM-28), Power Electronics (9 ECTS), scientific-disciplinary sector IIND08/B (ex ING-IND/32), University of Catania.
- [18/03/2021 - 28/05/2021] University Tutor (60 hours) for the MSc in Automation Engineering and Control of Complex Systems (LM-25), Modeling and Control of Electromechanical Systems (9 ECTS), scientific-disciplinary sector IIND08/B (ex ING-IND/32), University of Catania.
- [18/03/2021 - 24/05/2021] University Tutor (60 hours) for the MSc in Electrical Engineering (LM-28), Electrical Machines (9 ECTS), scientific-disciplinary sector IIND08/B (ex ING-IND/32), University of Catania.

INSTITUTIONAL RESPONSIBILITIES

- 2023 – Present: member of the Master's Degree in Electrical Engineering for Sustainable Green Energy Transition courses board, University of Catania.
- 2024 – Present: secretary of the Master's Degree in Electrical Engineering for Sustainable Green Energy Transition courses, University of Catania.

RESEARCH ACTIVITIES

Dr. Luigi Danilo Tornello has carried out his scientific research activities in the University of Catania within the Power Electronics Converters, Electrical Machines and Drives Research Group, of which he has been a member since 2017. His research activities have consistently been conducted in collaboration with other Italian universities, as well as with research institutions and industrial companies. Among these collaborations are those with STMicroelectronics (Catania) and Magneti Marelli (Bologna).

The research topics addressed by Dr. Luigi Danilo Tornello include:

1. Sensorless vector control techniques for three-phase permanent magnet synchronous motors and three-phase synchronous reluctance motors operating at medium and high speeds, as well as identification of the thermal state of stator windings.
2. Speed control performance vs position sensor resolution in variable-speed electric drives.
3. Identification of electrical parameters and thermal state of the windings of three-phase induction motors and three-phase permanent magnet synchronous motors, with both standard and open-end winding configurations, as well as thermal state equalization of silicon carbide (SiC) power devices in traction inverters.
4. Energy optimization of electric drives employing multilevel converters, including modulation and control strategies.

5. Design of silicon carbide (SiC) Current Source Inverters (CSIs), Space Vector modulation strategies, and vector control techniques for electric traction applications.
6. Design of an experimental setup for reproducing the effects of the Active Short Circuit (ASC) of an electric traction inverter on silicon carbide (SiC) power devices.
7. Modeling of electric machines, power electronic converters, and power semiconductor devices for real-time simulators based on Field-Programmable Gate Array (FPGA) technologies and for Hardware-in-the-Loop (HIL) implementation.

COLLABORATION WITH COMPANIES AND RESEARCH INSTITUTIONS

1. Since January 2018: Dr. Luigi Danilo Tornello has collaborated on several research activities carried out by the Electric Machines, Power Converters, and Electrical Drives Research Group at the University of Messina, coordinated by Prof. Antonio Testa. The research activities focused on:
 - development of novel sensorless algorithms for permanent magnet synchronous motors and synchronous reluctance motors;
 - development of novel control strategies for multilevel converters for open-end winding electric drives;
 - development of algorithms for estimating the thermal state of the stator and rotor in electric drives employing induction motors.
2. Since October 2019: Dr. Luigi Danilo Tornello has collaborated on several research activities carried out by the Electric Machines, Power Converters, and Electrical Drives Research Group at Sapienza University of Rome, coordinated by Prof. Giulio De Donato. The research focused on analysing the impact of position sensor resolution on the dynamic performance of electric drives, in terms of speed reference tracking, torque disturbance rejection, sensitivity to, and rejection of quantization harmonics arising from the finite resolution of the position sensor. This in-depth analysis was conducted by investigating different speed controller solutions, alternative controller design techniques, and different speed estimation algorithms.

As part of this collaboration, Dr. Luigi Danilo Tornello spent a research and study period at Sapienza University of Rome from October 2019 to December 2019, working on the characterization of the dynamic performance of electric drives for permanent magnet synchronous motors using position sensors with different resolutions.

3. Since January 2021, Dr. Luigi Danilo Tornello has collaborated with several research groups at STMicroelectronics in Catania, Italy. In particular:
 - Collaboration with the SRA – System Lab Development Unit, a detailed analysis was carried out on the fault-tolerant performance of three-phase and multiphase electric drives. The research focused on the analysis of fault-isolation elements and on the effects of DC-link selection on the fault-isolation performance of the drive.
 - Collaboration with the Power Transistor Sub Group, practical and cost-effective solutions were developed for the validation of the Active Short Circuit (ASC) of SiC MOSFET power devices, with the aim of assessing the associated thermal stress. In particular, the developed circuit model reproduces the effects of an Active Short Circuit occurring in a power inverter module for electric traction applications.
4. Since January 2022, Dr. Luigi Danilo Tornello has collaborated with the Electric Machines, Power Converters, and Electrical Drives Research Group at Politecnico di Torino, Italy, under the supervision of Prof. Andrea Cavagnino. As part of this

collaboration, a core loss prediction model was developed for toroidal cores made of laminated ferromagnetic materials and supplied by power electronic converters based on wide-bandgap (WBG) semiconductor devices, including SiC and GaN MOSFET technologies. In particular, several measurement campaigns were carried out to extend the prediction model to high fundamental frequencies, up to 2 kHz, and high switching frequencies, up to 350 kHz.

5. Since January 2022, Dr. Luigi Danilo Tornello has collaborated on several research activities carried out by the Chassis Electronic Systems Group at Audi AG, Ingolstadt, Germany, under the supervision of Engineer Cristian Pernaci. The research focused on the extraction of the lumped parameters of the Thevenin equivalent circuit and the state-of-charge (SoC) estimation of an energy storage system for low-voltage electric drives. In particular, an algorithm was developed to exploit the electric drive not only to provide electromagnetic torque to the motor, but also to perform the characterization of the energy storage system.

MEMBERSHIP OF SCIENTIFIC COMMITTEES

- Member of the IEEE.
- Member of the IEEE Industry Applications Society.
- Member of the IEEE Power Electronics Society.
- Member of the Industrial Drives Committee of the IEEE Industry Applications Society.

EDITORIAL AND CONFERENCE ACTIVITIES

Since 2018 Luigi Danilo Tornello is reviewer for the following journals:

- IEEE Transaction on Industry Applications.
- IEEE Transaction on Power Electronics.
- IEEE Transaction on Industrial Electronics Society.
- IEEE Transactions on Transportation Electrification.

He is also reviewer following conferences: ECCE, EPE, ICEM.

AWARDS

2018 Third Prize Paper Award from the IES Electrical Machine Technical Committee for the paper "On-line stator winding resistance and rotor permanent magnet flux estimation for dual-three phase PMSM drives" presented at IEEE IECON 2017.

RESEARCH IMPACT AND BIBLIOMETRIC INDICATORS

Author profile on Scopus currently has the following citation indices (updated to 26.09.2026):

- H-index **11**.
- Total citations **318**.
- Total international journal papers **12**.
- Total international conference proceedings **44**.

ARTICLES IN INTERNATIONAL JOURNALS

1. L. D. Tornello, G. Scelba, G. De Donato, F. G. Capponi and G. Scarcella, "Novel Approach to Selecting Rotor Position Sensor Resolution for Variable Frequency Drives," in IEEE Transactions on Power Electronics, vol. 40, no. 6, pp. 8468-8479, June 2025.

2. G. Scelba, G. De Donato, A. A. M. Elsmann, L. D. Tornello, G. Scarcella and F. G. Capponi, "Resolution of Rotor Position Measurement: Modeling and Impact on Speed Estimation," in *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 10, no. 2, pp. 1992-2004, April 2022.
3. L. D. Tornello, S. Vaschetto, E. B. Agamloh, G. Scelba, G. De Donato and A. Cavagnino, "Investigating PWM-Induced Iron Losses: Measurements and Estimation Models up to 350 kHz Switching Frequency," in *IEEE Open Journal of Industry Applications*, vol. 5, pp. 338-355, 2024.
4. L. D. Tornello, G. Scelba, G. Scarcella, M. Cacciato, A. Testa, S. Foti, S. De Caro, M. Pulvirenti, "Combined Rotor-Position Estimation and Temperature Monitoring in Sensorless, Synchronous Reluctance Motor Drives," in *IEEE Transactions on Industry Applications*, vol. 55, no. 4, pp. 3851-3862, July-Aug. 2019.
5. S. Foti, A. Testa, G. Scelba, S. De Caro and L. D. Tornello, "A V2G Integrated Battery Charger Based on an Open End Winding Multilevel Configuration," in *IEEE Open Journal of Industry Applications*, vol. 1, pp. 216-226, 2020.
6. S. Foti, A. Testa, L. D. Tornello, S. De Caro, G. Scelba, T. Scimone, M. Cacciato, "Rotor Position Error Compensation in Sensorless Synchronous Reluctance Motor Drives," in *IEEE Transactions on Power Electronics*, vol. 37, no. 4, pp. 4442-4452, April 2022.
7. Tornello, L. D.; Foti, S.; Cacciato, M.; Testa, A.; Scelba, G.; De Caro, S.; Scarcella, G.; Rizzo, S.A. Performance Improvement of Grid-Connected Induction Motors through an Auxiliary Winding Set. *Energies* 2021, 14, 2178.
8. Foti, S.; Testa, A.; De Caro S.; Tornello, L.D.; Scelba, G.; and Cacciato, M.; Multi-Level Multi-Input Converter for Hybrid Renewable Energy Generators. *Energies* 2021, 14, 1764.
9. Sujeeth, A.; Di Cataldo, A.; Tornello, L.D.; Pulvirenti, M.; Salvo, L.; Sciacca, A.G.; Scelba, G.; Cacciato, M. Power Loss Modelling and Performance Comparison of Three-Level GaN-Based Inverters Used for Electric Traction. *Energies* 2024, 17, 595.
10. Tornello, L. D., Spitaleri, M. G., Scarcella, G., and Cacciato, M.; Analytical modeling of SiC-MOSFETs for parasitic parameter adjustment based on experimental data, *Electrical Engineering*, 2025, 107(2).
11. Monteleone, S.; Tornello, L.D.; Patti, D.; Scelba, G.; Palesi, M.; Russo, E.; Pulvirenti, M.; Salvo, L. Parameter Identification of SiC MOSFET Half-Bridge Converters Using a Multi-Objective Optimization Method. *Electronics* 2025, 14, 4458.
12. S. Foti, Khan Hassan, H., G. Scelba, A. Testa, and L. D. Tornello; "An open-end winding hybrid transformer for low voltage distribution grids", *International Journal of Electrical Power & Energy Systems*, August 2024.

ARTICLES IN CONFERENCE PROCEEDINGS

13. L. D. Tornello, G. Scelba, A. Spampinato and G. Forte, "Performance Analysis of a Fault Isolation System for Fault-Tolerant Voltage-Fed PWM Motor Drives," 2021 IEEE Energy Conversion Congress and Exposition (ECCE), 2021, pp. 4859-4866.
14. D. Cremente, L. D. Tornello, S. Foti, G. Scelba, A. Testa and G. Scarcella, "Stator and Rotor Temperatures Estimation in Three-Phase Open-ended Winding Induction Motor Drives," 2022 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2022, pp. 1-7.
15. L. D. Tornello, G. Turrise, G. Scelba, G. De Donato, F. G. Capponi and G. Scarcella, "A New Method to Select Rotor Position Sensor Resolution in Variable Speed Drives," 2022 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2022, pp. 1-8.
16. L. D. Tornello, G. Scelba, M. Cacciato, G. Scarcella, A. Palmieri, E. Vanelli, C. Pernaci, R. Di Dio, "FPGA - Based Real-Time Models of IGBT Power Converters," 2018 International

- Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), 2018, pp. 519-526.
17. L. D. Tornello, G. Scelba, G. Turrise, G. De Donato, G. Scarcella and F. G. Capponi, "Impact of closed loop pole placement on the low speed performance of VFDs using low-resolution position sensors," 2023 IEEE Energy Conversion Congress and Exposition (ECCE), Nashville, TN, USA, 2023, pp. 4813-4820.
 18. A. Lanzafame et al., "Experimental Test Setup for Thermal Stress Analysis of SiC Devices under Active Short Circuits," 2022 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2022, pp. 1-6.
 19. T. Scimone, A. Lanzafame, L. D. Tornello, B. Amata, G. Scelba and M. Cacciato, "Active Short-Circuit Analysis of SiC Power Devices in Electric Traction Systems using a new Low-Cost Test Bench," 2023 IEEE Energy Conversion Congress and Exposition (ECCE), Nashville, TN, USA, 2023, pp. 5806-5812.
 20. L. D. Tornello, G. Scelba and G. De Donato, "Comparative Study on Tuning Methods for Variable Speed Drives," 2024 International Conference on Electrical Machines (ICEM), Torino, Italy, 2024, pp. 1-8.
 21. A. Testa, S. Foti, S. De Caro, L. D. Tornello, G. Scelba and G. Scarcella, "Optimal Selection of the Voltage Modulation Strategy for an Open Winding Multilevel Inverter," 2020 IEEE Energy Conversion Congress and Exposition (ECCE), 2020, pp. 2231-223.
 22. L. D. Tornello, G. Scelba, G. D. Donato, F. G. Capponi, G. Scarcella and M. Harbaugh, "Selection of Rotor Position Sensor Resolution for Variable Frequency Drives Utilizing Fixed-Position-Based Speed Estimation," 2021 IEEE Energy Conversion Congress and Exposition (ECCE), 2021, pp. 4846-4853.
 23. G. Turrise, L. D. Tornello, G. Scelba, G. De Donato and G. Scarcella, "Performances Analysis of Non-Model-Based Speed Estimation Algorithms for Motor Drives," 2022 24th European Conference on Power Electronics and Applications (EPE'22 ECCE Europe), 2022, pp. 1-11.
 24. L. D. Tornello, G. Scelba, G. Scarcella, M. Cacciato, S. Foti and A. Testa, "Sensorless Control of PMSM Drives through Modified Thermistors Wirings," 2019 IEEE 10th International Symposium on Sensorless Control for Electrical Drives (SLED), 2019, pp. 1-6.
 25. S. De Caro, S. Foti, T. Scimone, A. Testa, L. D. Tornello and G. Scelba, "A New Self-Commissioning Technique for Sensorless Synchronous Reluctance Motor Drives," 2019 IEEE 10th International Symposium on Sensorless Control for Electrical Drives (SLED), 2019, pp. 1-6.
 26. S. Foti, A. Testa, S. De Caro, T. Scimone, L. D. Tornello, G. Scarcella, G. Scelba, "A Novel Three-Phase Multilevel Inverter Topology with Reduced Device Count for Open-end Winding Motor Drives," 2019 IEEE Energy Conversion Congress and Exposition (ECCE), 2019, pp. 3624-3630.
 27. S. Foti, A. Testa, S. De Caro, T. Scimone, L. D. Tornello, G. Scarcella, G. Scelba, "A novel Hybrid N-Level T-Type Inverter Topology," 2019 IEEE Energy Conversion Congress and Exposition (ECCE), 2019, pp. 5507-5513.
 28. S. Foti, S. D. Caro, A. Testa, L. D. Tornello, G. Scelba and M. Cacciato, "An Open-End Winding Hybrid Transformer," 2020 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), 2020, pp. 173-177.
 29. E. Vasta et al., "State of Charge Estimation of Battery Energy Storage Systems in Low Voltage Electric Drive Applications for Hybrid and Electric Vehicles," 2022 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2022, pp. 1-7.
 30. G. Scelba, L. D. Tornello, G. Scarcella, M. Cacciato, A. Testa, S. Foti, M. Pulvirenti, "Combined Rotor Position Estimation and Temperature Monitoring in Sensorless Synchronous Motor Drives," 2018 IEEE 9th International Symposium on Sensorless Control for Electrical Drives (SLED), 2018, pp. 30-35.

31. G. Aiello L. D. Tornello, G. Scelba, G. Scarcella, M. Cacciato, A. Palmieri, E. Vanelli, C. Pernaci, R. Di Dio, "FPGA-Based Design and Implementation of a Real Time Simulator of Switched Reluctance Motor Drives," 2019 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe), 2019, pp. P.1-P.8.
32. G. Aiello, G. Scelba, G. Scarcella, M. Cacciato, L. D. Tornello, A. Palmieri, E. Vanelli, C. Pernaci, R. Di Dio, "Real-Time Emulation of Induction Machines for Hardware in the Loop Applications," 2018 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), 2018, pp. 1340-1345.
33. A. Spampinato, G. Forte, L. D. Tornello, G. Scelba and G. Scarcella, "Performance Assessment of a Modular Fault-Tolerant Multiphase Inverter," 2022 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), 2022, pp. 657-662.
34. S. Foti, A. Testa, S. de Caro, T. Scimone, G. Scelba and L. D. Tornello, "A Fault Tolerant AC/DC Converter for Electrical Gen-Set Applications," 2019 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe), 2019, pp. P.1-P.10.
35. S. Foti, S. De Caro, A. Testa, L. D. Tornello, G. Scelba and G. Scarcella, "Grid-Connected Open-end Winding Induction Motor Drives," 2020 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), 2020, pp. 30-35.
36. G. Nobile, M. Cacciato, G. Scarcella, G. Scelba, E. Vasta, L. D. Tornello, A. G. F. Di Stefano, G. Leotta, P. M. Pugliatti, F. Bizzarri, "A novel model-based approach for the energy management of distributed storage systems in utility-scale PV fields," 2019 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe), 2019, pp. P.1-P.10.
37. S. Foti, A. Testa, T. Scimone, S. de Caro, G. Scelba and L. D. Tornello, "An Integrated Battery Charger for EV applications based on an Open End Winding Multilevel Converter configuration," 2019 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe), 2019, pp. P.1-P.8.
38. M. Pulvirenti, G. Scelba, G. Scarcella, M. Cacciato and L. Tornello, "On-line stator winding resistance and rotor permanent magnet flux estimation for dual-three phase PMSM drives," IECON 2017 - 43rd Annual Conference of the IEEE Industrial Electronics Society, 2017, pp. 2104-2109.
39. S. Foti, L. D. Tornello, G. Scelba, D. Cremente, M. Cacciato and A. Testa, "Implementation of an Auxiliary Low-Voltage DC Power Supply from an Electric Traction Open-Ended Motor Drive Configuration," 2022 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2022, pp. 1-7.
40. G. Turrisi, L. D. Tornello, G. Scelba, M. Cacciato and G. Scarcella, "Losses Evaluation in Current Source Inverter Topologies for Automotive Traction Applications," 2023 25th European Conference on Power Electronics and Applications (EPE'23 ECCE Europe), Aalborg, Denmark, 2023, pp. 1-11.
41. L. D. Tornello, M. G. Spitaleri, G. Scarcella and M. Cacciato, "An Analytical Model of a SiC MOSFETs in Parallel Configuration," 2024 ELEKTRO (ELEKTRO), Zakopane, Poland, 2024, pp. 1-6.
42. S. Foti, A. Testa, G. Scarcella, G. Scelba and L. D. Tornello, "Active IGBT Temperature Equalization in Field Oriented Control Motor Drives by Magnetic Energy Management," 2024 International Conference on Electrical Machines (ICEM), Torino, Italy, 2024, pp. 01-08.
43. G. Turrisi, L. D. Tornello, G. Scarcella, G. Scelba and S. Morello, "Analysis and Implementation of a Silicon Carbide-Based Three-Phase Current Source Inverter," 2024 Energy Conversion Congress & Expo Europe (ECCE Europe), Darmstadt, Germany, 2024, pp. 1-8.

44. S. Morello Baganella, A. Tirrò, L. D. Tornello, G. Turrisi, G. Scelba and A. Testa, "An Overview of Space Vector Modulation Strategies for Current Source Inverters," 2026 IEEE 23rd International Multi-Conference on Systems, Signals & Devices (SSD), Catania, Italy, 2026, pp. 788-793.
45. S. Foti, G. Baia, D. Campagna, A. Testa, G. Scelba and L. Tornello, "Zero Voltage Switching Back to Back Converter for Wind Generators," 2026 IEEE 23rd International Multi-Conference on Systems, Signals & Devices (SSD), Catania, Italy, 2026, pp. 775-780.
46. A. Spampinato, G. Forte and L. D. Tornello, "Advancing Brushless Motor Drives with GaN Devices: High Efficiency and Cost-Effective Solutions for Household Refrigeration," IECON 2025 – 51st Annual Conference of the IEEE Industrial Electronics Society, Madrid, Spain, 2025, pp. 1-6.
47. N. Patti, L. D. Tornello, M. Hinkkanen and G. Scelba, "A Comparative Study of Torque and Flux Reference Generation Methods for Sensorless Control," 2025 Energy Conversion Congress & Expo Europe (ECCE Europe), Birmingham, United Kingdom, 2025, pp. 1-6.
48. A. Tirrò, L. D. Tornello, G. Scelba, A. Testa, G. Scarcella and M. Cacciato, "Comprehensive Analysis of 2DOF-PI Current Controllers for Grid Connected Inverters," 2025 Energy Conversion Congress & Expo Europe (ECCE Europe), Birmingham, United Kingdom, 2025, pp. 1-6.
49. G. Turrisi et al., "Comparative Analysis of SiC-based Current and Voltage Source Inverters," 2025 Energy Conversion Congress & Expo Europe (ECCE Europe), Birmingham, United Kingdom, 2025, pp. 1-6.
50. T. Scimone et al., "Experimental Investigation of Parallel-Connected SiC Power Devices During Active Short Circuit Events," 2025 IEEE Symposium on Diagnostics for Electric Machines, Power Electronics and Drives (SDEMPED), Dallas, TX, USA, 2025, pp. 1-6.
51. S. Foti, G. Baia, D. Campagna, A. Testa, G. Scelba and L. D. Tornello, "A High Efficiency Si/SiC Inverter for PV Generators," 2025 International Conference on Clean Electrical Power (ICCEP), Villasimius, Italy, 2025, pp. 436-441.
52. G. Scelba et al., "Exploiting Electric Drives for Battery Monitoring and Inverter Devices Heat Stress Management in EVs," 2025 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD), Valletta, Malta, 2025, pp. 1-6.
53. S. Foti, G. Baia, D. Campagna, S. De Caro, L. Tornello and A. Testa, "Open-End Winding Triple Rectifier for Wind Turbine with Integrated Energy Storage," 2025 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD), Valletta, Malta, 2025, pp. 1-6.
54. A. S. Lieto, A. Di Cataldo, M. G. Spitaleri, L. D. Tornello, G. Scelba and A. Testa, "Characterization of Current-Carrying Capacity in Printed Circuit Board Traces," 2025 IEEE Energy Conversion Conference Congress and Exposition (ECCE), Philadelphia, PA, USA, 2025, pp. 1-6.
55. S. M. Baganella, G. Turrisi, L. D. Tornello, G. Scelba and G. Scarcella, "Overlap Time Compensation in Current Source Inverter – A Generalized Approach," 2025 IEEE Energy Conversion Conference Congress and Exposition (ECCE), Philadelphia, PA, USA, 2025, pp. 1-8.
56. A. Di Cataldo, L. D. Tornello, G. Scelba, S. Vaschetto and A. Cavagnino, "Iron Losses in Non-Oriented Electrical Steels Excited by Three-Level GaN PWM Inverter," 2025 IEEE Energy Conversion Conference Congress and Exposition (ECCE), Philadelphia, PA, USA, 2025, pp. 1-6.

26/09/2026

Sincerely

