# Curriculum Vitae

**Personal Information**

Name and Surname: **Rosa Anna Mastromauro**

Citizenship: Italian
email: rosaanna.mastromauro@unifi.it;
State personal website: https://www.unifi.it/p-doc2-2018-0-A-2c3239323327-1.html

Linkedin profile: https://www.linkedin.com/in/rosa-anna-mastromauro-3b957512/

**Qualification and Actual Position**

- July 2005: M.Sc degree in Electrical Engineering, Curriculum: Energy, Politecnico di Bari, Italy, mark: 110/110 "cum laude".

- March 2006: Engineer Qualifying Examination with mark: 160/160.

- September 2009: Ph.D degree in Electrical Engineering (XXI Cycle), Scientific Sector SSD ING-IND/32 "Power Converters, Electrical Machines and Drives", Politecnico di Bari, Italy, dissertation title "Power Converters and Control for Photovoltaic-Based Distributed Power Generation Systems".

- December 2013: National Scientific Qualification for the Second Level (Associate) Professors in the competition sector 09/E2 "Ingegneria dell'Energia Elettrica", Bando 2012 (DD n.22/2012).

- May 2021: National Scientific Qualification for the First Level (Full) Professors in the competition sector 09/E2 "Ingegneria dell'Energia Elettrica ", Bando D.D. 2175/2018.

- Actual Position: Associate Professor, Scientific Sector SSD ING-IND/32 "Power Converters, Electrical Machines and Drives" at the Department of Information Engineering (DINFO), University of Florence, Italy, since 10/01/2015.

**Brief Description of the Research Activity**

The research activity has been mainly oriented to the static power conversion topologies and the related control systems with application to smart grids and distributed power generation systems based on renewable energies. In the last years research has been also focused on power converters for transportation applications and on high power converters for industrial applications. Besides, research activity has been also devoted to power converters integration in the electrical power system and to management and control of the distributed power generation systems using the power converters as key technology. The rest of the research activity treated different applications of the electrical machines.

The publications received 2353 citations in the Scopus database access (04 /16/2024) and 3902 citations in the Google Scholar database. The h-index is 20 in the Scopus database (h-index=24 in Google Scholar database). The topics attracting numerous citations are: droop controller for a multifunctional converter; voltage-controlled power converter operating as an active filter; islanding detection techniques for distributed power generation systems; resonant and repetitive controllers for grid- connected converters; reactive power control performed by photovoltaic converters; maximum power point tracking algorithm for photovoltaic systems; back-to-back converter for wind turbine systems. From 2006 (date of the first publication) until today several scientific collaborations have been developed in national, international and industrial scenario. The results are attested by scientific publications indexed in Scopus database e WoS database.

**Teaching Activities**

- Teaching activities at the University of Florence:

- "Electrical Machines" (6 credits), 48 h of lectures, Scientific Sector SSD: ING-IND/32, M.Sc Degree Course in Electrical and Automation Engineering and M.Sc Degree Course in Energy Engineering, Academic years: 2015/2016, 2016/2017, 2017/2018.

- "Electrical Machines" (9 credits), 72h of lectures, SSD: ING-IND/32, M.Sc Degree Course in Electrical and Automation Engineering and M.Sc Degree Course in Energy Engineering, Academic years: 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024.

- "Power Converters" (6 credits), 48 h of lectrures, SSD: ING-IND/32, M.Sc Degree Course in Electrical and Automation Engineering and M.Sc Degree Course in Energy Engineering, Academic years:2016/2017, 2017/2018, 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024.

- President of the Examination Board for the above-mentioned courses.

- Teaching activities at Politecnico di Bari:

- Electrical Static Power Conversion (6 credits), 48 h of lectures, SSD: ING-IND/32, M.Sc Degree Course in Electrical Engineering, Academic years: 2013/2014, 2014/2015, 2015/2016.

- Power Electronics (9 credits), 48 h of lectures, SSD: ING-IND/32, B.Sc Degree Course in Electrical Engineering, Foggia, Academic years: 2008/2009, 2009/2010, 2010/2011.

- Examination Board member at Politecnico di Bari for the following courses: Power Electronics (M.Sc Degree Course in Electrical Engineering and Automation Engineering), Electrical Static Power Conversion (M.Sc Degree Course in Electrical Engineering), Electrical Machines and Drives (M.Sc Degree Course in Mechanical Engineering). Seminar and laboratory activities performed for the same courses. Years: 2006-2016.

- Tutoring and supervision of more than forty theses including M.Sc in Electrical Engineering, M. Sc in Automation Engineering, M.Sc in Information Engineering and B. Sc in Electrical Engineering.

**Phd Programs Board Membership, International Committee Membership for PhD Assessment, Supervision of PhD Students**

- Committee Member of the PhD Program in Information Engineering, University of Florence, Year 2016 Cycle XXXII (Duration: 3 years), Year 2017 Cycle XXXIII (Duration: 3 years), Year 2018 Cycle XXXIV (Duration: 3 years), Year 2021 Cycle XXXVII (Duration: 3 years), Year 2022 Cycle 38 (Duration: 3 years), Year 2023 Cycle 39 (Duration: 3 years).

- Committee Member of the PhD National Program in Photovoltaics, Year 2022 Cycle 38 (Duration: 3 years), Year 2023 Cycle 39 (Duration: 3 years).

- Quality Evaluation Board Member of the PhD National Program in Photovoltaics, Year 2022 Cycle 38 (Duration: 3 years), Year 2023 Cycle 39 (Duration: 3 years).

- Member of the Assessment Committee concerning Xiangqiang Wu's PhD defence, Department of Energy, Aalborg University, Denmark, 2024.

- Keynote Speech with title "Electrical Damping Assessment of Highly Electrified Liquefied Natural Gas Plants: the Role of the Power Converters in Stability Achievement", 22nd edition of the International Symposium "Topical Problems in the Field of Electrical and Power Engineering" and "Doctoral School of Energy and Geotechnology III", Pärnu, Estonia, 23-26 August 2023.

- Member of the assessment committee of the applicants for the PhD Program in Information Engineering, University of Florence, Italy, Cycle XXXIII, Duration: 07/21/2017- 09/30/2017.

- Member of the assessment committee of the applicants for the Pd.D Program funded by Next generation EU and "Piano Nazionale di Ripresa e Resilienza (PNRR)", Cycle 38, University of Florence, Italy. Duration: 11/23/2022- 12/01/2022.

- International Member of the Evaluation Board for the Ph.D dissertation with title: "Assessment and Contributions to New Requirements for Renewable Energy Resources connected to the Grid under disturbances", Doctoral candidate: Tania Mª García Sánchez, supervisors: Dr. Angel Molina García, Dr. Emilio Gómez Lázaro, Universidad Politecnica de Cartagena, Spain, April 2015.

- External evaluator of the PHD thesis with title: Integración de la Demanda Eléctrica y del Recurso Eólico al Control de Frecuencia. Análisis e Implementación", Doctoral candidate: Irene Muñoz Benavente, supervisor: Dr. Angel Molina García, Universidad Politecnica de Cartagena, Spain, Febryary 2015.

- External evaluator of the PHD thesis with title: "Control of voltage source converters for distributed generation in microgrids", Doctoral candidate: Jordi Pegueroles Queralt, supervisor: Oriol Gomis-Bellmunt, Technical University of Catalonia (UPC), Barcelona, Spain, June 2015.

- External evaluator for the PhD thesis with title: "Unified Control System for Three-Phase Electric Drives Operating in Magnetic Saturation Region", candidate: Marco Bertoldi, supervisor: Claudio Rossi; Scientific Sector SSD ING/IND/32 "Power Converters, Electrical Machines and Drives", Università di Bologna, Italy, Year: 2022.

• Tutor of the PHD Candidate Francesco Antonio Gervasio, Phd Program in Electrical and Information Engineering, SSD ING-IND/32, Politecnico di Bari, Cycle XXVIII. Dissertation title: "Design, development and control of a three-level NPC converter for microgrid applications".

• Tutor of the PhD Candidate Sante Pugliese, PhD Program in Electrical and Information Engineering, SSD ING-IND/32, Politecnico di Bari, Cycle XXX. Dissertation title: "Power Converters and Control Systems for DC Smart Grids and Smart Transformers Applications".

• Tutor of the PHD Candidate Lorenzo Bongini, PhD Program in Information Engineering, SSD ING-IND/32, University of Florence, Cycle XXXIII, Dissertation title: "Motors, generators and frequency converters electromechanical and system optimization for Oil&Gas plants".

• Tutor of the PHD Candidate Javed Jamshed, National Phd Program in Photovoltaics, SSD ING-IND/32, Cycle 38, Title of the research activity: " Power converters topologies, modulation and control techniques for photovoltaic systems connected to the medium voltage grid: challenges and optimization".

**Editorial Boards Membership and Contributions in Books and Editorial Collections**

• Associate Editor of the journal IEEE Transactions on Industrial Electronics, ISSN: 0278-0046, https://www.ieee-ies.org/pubs/transactions-on-industrial-electronics/193-associate-editors (from 05-05-2018 - ongoing activity).

• Editorial Board Member of the journal Energies, MDPI, ISSN: 1996-1073, https://www.mdpi.com/journal/energies/sectioneditors/power_electronics, at the beginning in the Section "Solar Energy and Photovoltaic Systems" and successively in the Section "Power Electronics" (from 05-06-2020 – ongoing activity).

• Editor of the journal Electric Power Components and Systems, Taylor& Francis, ISSN: 15325008, 15325016, https://www.tandfonline.com/action/journalInformation?show=editorialBoard&journalCode=uemp20 (from 07-01-2022- to 12/31/2023).

• Editor of the Special Issue "Grid-Connected PV Plants", Energies, MDPI, ISSN: 1996-1073, https://www.mdpi.com/journal/energies/special_issues/GC_PVP. In the Special Issue eight papers were published. The activity was coordinated together with Prof. Angel Molina Garcia, Università di Cartagena, Spain (from 04-01-2019 to 04-30-2020).

• Editor of the Topical Collection in Energies: "Editorial Board Members' Collection Series: Advances in Power Converters", Energies, MDPI, ISSN: 1996-1073, https://www.mdpi.com/journal/energies/topical_collections/W50E53A4U5. The activity is coordinated together with Prof. Luigi Piegari, Politecnico di Milano, Italy (from 12-01-2022 – ongoing activity).

• Editorial Board Member of the journal ISRN Power Engineering (Hindawi Publishing Corporation) successively modified as in International Scholarly Research Notices (from January 2013).

• Contribution with title "Universal operation of small/medium size renewable energy systems", authors: M. Liserre, R. A. Mastromauro, A. Nagliero, Chapter 9 in "Power Electronics for Renewable Energy Systems, Transportation and Industrial Applications", First Edition Edited by Haitham Abu-Rub, Mariusz Malinowski and Kamal Al-Haddad, John Wiley & Sons, Ltd, July 2014, printed and bound in Singapore by Markono Print Media Pte Ltd, pp. 231-269, ISBN: 978-1-118-63403-5.

• Acknowledgement: "Rosa A. Mastromauro, Assistant Professor, Politecnico di Bari, for his valuable contribution on Chapter 11 (Grid Filter Design) and 12 (Grid Current Control)", in the book with title "Grid Converters for photovoltaic and Wind Power Systems", authors: R. Teodorescu, M. Liserre, P. Rodriguez, edited by John Wiley and Sons Ltd., 2011.

• Editorial Assistant for the journal IEEE Industrial Electronics Magazine. Years: 2006-2009.

• Reviewers for the international journals: IEEE Transactions on Power Electronics, IEEE Transactions on Industrial Electronics, IEEE Emerging and Selected Topics, IEEE Access, IEEE Transactions on Industrial Informatics, IEEE Transactions on Sustainable Energy, IEEE Transactions on Smart Grids, IEEE Transactions on Transportation Electrification, Proceedings of the IEEE, IEEE Transactions on Energy Conversion, ELSEVIER Renewable Energy, ELSEVIER Renewable & Sustainable Energy Reviews, Energies MDPI.

**Scientific Conferences Organization**

- General Chair of the Conference, 2021 IEEE 15th International Conference on Compatibility, Power Electronics and Power Engineering, CPE-POWERENG 2021, 14-16 July 2021, Florence, Italy, Hybrid Mode Conference.
- Technical Board Member, 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering, CPE-POWERENG 2024, 24-26 June 2024, Gdynia, Poland
- Technical Program Committee Member, 22nd IEEE Mediterranean Electrotechnical Conference, IEEE MELECON 2024, 25-27 June 2024, Porto, Portugal.
- Technical Board Member, IEEE 8th International Conference on Clean Electrical Power, ICCEP 2023, 27-29 June 2023 – Terrasini (Palermo), Italy.
- Technical Board Member, 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering, CPE-POWERENG 2023, 14-16 June 2023, Tallin, Estonia.
- Session Chair, IEEE 6ª edition of the International Conference on Electrical Systems for Aircraft, Railway, Ship Propulsion and Road Vehicles (ESARS) and International Transportation Electrification Conference, ESARS 2023 ITEC Europe, Session title: "Aircrafts", 28-31 March 2023, Venice, Italy.
- Topic Chair, IEEE Energy Conversion Congress and Exposition, ECCE 2022, Detroit, USA, 9-13 October 2022, Topic: Control, Modelling and Optimization of Power Converters.
- Technical Track Chair, Topic: Renewable Energies, 2022 IEEE 16th International Conference on Compatibility, Power Electronics and Power Engineering, CPE-POWERENG 2022, 29th June.-July 1st 2022, Birmingham, UK.
- Session Chair, 2022 IEEE 16th International Conference on Compatibility, Power Electronics and Power Engineering, CPE-POWERENG 2022, Session title: Future-proof power electronic systems and control for residential microgrids, 29th June-1st July 2022, Birmingham, UK.
- Theme Chair, 20th IEEE Mediterranean Electrotechnical Conference, MELECON 2020, Theme: 1.1. Electric vehicle transportation systems and their environmental impact, charging infrastructure and grid integration Wireless Recharging Technologies, 16-18 June 2020, Palermo, Italy, Remote Conference.
- Session Chair, 20th IEEE Mediterranean Electrotechnical Conference, MELECON 2020, Virtual Conference, Session Title: Electric vehicle transportation systems and their environmental impact, charging infrastructure and grid integration, 16-19 June2020, Palermo, Italy, Remote Conference.
- Local Scientific Committee Member, IEEE European Conference on power Electronics and Applications, EPE'19 ECCE EUROPE, 2-6 September 2019, Genova, June 2019, Italy.
- Special Session Chair, IEEE 7th International Conference on Clean Electrical Power, ICCEP 2019, 2-4 July 2019, Otranto, Italy.
- Track Chair, 42nd Annual Conference of the IEEE Industrial Electronics Society, IECON 2016, Track: Wireless Recharging Technologies, 23-26 October 2016, Florence, Italy.
- Session Chair, 42nd Annual Conference of the IEEE Industrial Electronics Society IECON 2016, 23-26 October 2016, Florence (Italy), session title: PCTC6 - Power Converter Topologies and Control 6".

- Local Scientific Committee Member, 16th International Conference on Environment and Electrical Engineering, EEEIC 2016, 7-10 June, Firenze, Italy.
- Special Session Organizer and Chair "Control of Power Converters for Renewable Energies Systems", IEEE 16th International Conference on Environment and Electrical Engineering, EEEIC 2016, 7-10 June, Firenze, Italy.
- Session Chair, IEEE Electrical Systems for Aircraft, Railway and Ship Propulsion Conference, ESARS 2015, Aachen (Germany), 3-5 March 2015, session title: TS1.2 Aircraft Electrical Applications.
- Session Chair, IEEE 4th International Conference on Renewable Energy Research and Applications, ICRERA 2015, Palermo (Italy), 22-25 November 2015, Track 1: Renewable (Green) Energy Systems and Sources (RESSs) as Wind Power, Hydropower, Solar Energy, Biomass, Biofuel, Geothermal Energy, Wave Energy, Tidal energy, Hydrogen & Fuel Cells, Energy Storage.
- Topic Chair, IEEE Energy Conversion Congress and Exposition, ECCE 2014, Pittsburgh, USA, 14-18 September 2014, Track F: Control of Power Converter.
- Session Chair, IET Renewable Power Generation Conference, IET RPG PG 2014, 24-25 September 2014, Naples (Italy), session title: 4.c - Impact on distribution systems of distributed generation.
- Invited Talk with title: "Control and Interconnection Issues of AC and DC Microgrids" ACROSS Workshop on Cooperative Systems, Dubrovnik, Croatia, 10-12 September 10-12, 2014, organized by: Centre of Research Excellence for Advanced Cooperative Systems, Faculty of Electrical Engineering and Computing, University of Zagreb.
- Session Chair, IEEE 39th Annual Conference of the IEEE Industrial Electronics Society, IECON 2013, Vienna (Austria), 10-14 November 2013, session title: TT0129- Control Techniques for Power Converters.
- Volunteers Staff Coordinator, IEEE International Symposium on Industrial Electronics ISIE 2010, 4-7 July 2010, Bari, Italy.
- Reviewers for the international Conferences: IEEE Energy Conversion Congress & Expo: ECCE 2014, ECCE 2013, ECCE 2017, ECCE 2018, ECCE 2022, IEEE International Symposium on Industrial Electronics: ISIE 2006, ISIE 2007, ISIE 2008, ISIE 2009, ISIE 2010, ISIE 2011, ISIE 2012; IEEE Power Electronics Specialist Conference: PESC 2008; IEEE Industrial Electronics Conference: IECON 2006, IECON 2007, IECON 2008, IECON 2009, IECON 2010, IECON 2011, IECON 2012, IECON 2013, IECON 2016, IECON 2018; IEEE International Conference on Industrial Technology ICIT 2008, ICIT 2009, ICIT 2013; European Power Electronics Conference: EPE 2007; International Conference on Optimization of Electrical and Electronic Equipment OPTIM 2006, 2008, 2010; EEEIC 2016, IEEE CPE-POWERENG 2021, IEEE CPE-POWERENG 2022, IEEE CPE-POWERENG 2023, IEEE CPE-POWERENG 2024, MELECON 2020, MELECON 2024.

**Technology Transfer Activities and Research Activities Financed by Companies**

**-** National Centre “Sustainable Mobility” financed by EU with the program Next Generation EU, italian title: Progetto di Potenziamento strutture di ricerca e creazione di "campioni nazionali di R&S" su alcune Key Enabling Technologies - Centro Nazionale per la Mobilità Sostenibile, finanziato dall'Unione Europea - NextGenerationEU nell'ambito del PNRR, missione "Istruzione e ricerca", Misura M4.C2 Investimento 1.4, Spoke 5- Light Vehicle and Active Mobility. Role: member of the University of Florence Research Unit. Duration: 09/01/2022- 08/31/2025.

- Scientific Cooperation Agreement in the topic “Motors, Generators and Frequency Converters Electromechanical and System Optimization for Oil&Gas Plants", Baker Hughes, Nuovo Pignone Firenze. The agreement financed a Phd position in the related topic. Role: Responsible of Scientific Cooperation Agreement. Date: since 07/10/2017.

- Technical and scientific evaluator for regional projects financing “Asse I- Ricerca e Innovazione dei PO FESR 2014-2020 e finalizzati allo sviluppo di soluzioni tecnologiche coerenti con le traiettorie tecnologiche prioritarie individuate dal documento RIS3 Campania, Traiettoria Tecnologica Prioritaria: Sistemi di trasformazione e conversione e applicazioni sulle reti di distribuzione, Ambito tecnologico: Metodologie, tecnologie e Apparecchiature per l'accumulo di energia e la gestione delle reti”, Campania Region, Italy. Year: 2017.

- Industry consultant for the R&D sector of Gruppo Loccioni (Angeli di Rosora (AN), Italy). Title of the project: "Smart Leaf Community". The activity aimed to realize and to control a microgrid. Year: 2013.

- Research project “Study of a permanent magnet motor/generator for aerospace applications”, research contract born as a partnership between Politecnico di Bari and GE Avio. The research led to build a 100 kW back-to-back converter prototype and a permanent machine working with 1 kHz fundamental frequency. Role: researcher. Years: 2011-2012

- Research Project “PE_115 “Control of photovoltaic plants connected to the distribution network" supported by the Apulia Region. The research goal was a decentralized control system designed in order to reduce losses in low voltage feeders and based on sensitivity analysis. Ruolo: researcher. Year: 2008.

- Research contract with title “Optimization of the power converter for a small wind turbine system”, company: JONICA IMPIANTI. s.c.a.r.l. (Lizzano, TA, Italy), The research had as final result the achievement of a power converter for small wind turbines designed to improve the efficiency performances. Role: researcher. Year: 2008

**Involvement in Research Projects Financed on the Basis of Peer Review and Competitions**

-- National Centre “Sustainable Mobility” financed by EU with the program Next Generation EU, italian title: Progetto di Potenziamento strutture di ricerca e creazione di "campioni nazionali di R&S" su alcune Key Enabling Technologies - Centro Nazionale per la Mobilità Sostenibile, finanziato dall'Unione Europea - NextGenerationEU nell'ambito del PNRR, missione "Istruzione e ricerca", Misura M4.C2 Investimento 1.4, Spoke 5- Light Vehicle and Active Mobility. Role: member of the University of Florence Research Unit. Duration: 09/01/2022- 08/31/2025.

- Research project: "Reti, Edifici, Strade - Nuovi Obiettivi Virtuosi per l’Ambiente e l’Energia" (RES NOVAE), Programma Operativo Nazionale “Ricerca e Competitività, 2007/2013” (PONREC) supported by the Italian University and Research National Ministry. Politecnico di Bari Unit Budget: 2.611.000 Euros. The research project aimed to develop a smart city demonstrator based on integration of energy and information technologies providing costs reduction and it promoted distributed power generation based on renewable energies. Role: scientific responsible for Workpackages: 1.1.3.a-Progettazione e realizzazione di uno stadio di conversione statica dell’energia, 1.1.3.b - Progettazione ed implementazione di un sistema di controllo ottimizzato per il funzionamento universale del convertitore, 1.1.3.c - Ricerca e sviluppo sul funzionamento in isola delle reti di distribuzione, 1.1.3.d - Realizzazione di un modello di ottimizzazione orientato alla riduzione delle perdite di energia. These workpackages were portions of the Activity AR1.1.3 “Monitoraggio e controllo di reti di distribuzione isolate” funded with 150.000 Euros. Years: 2012-2015.

- Research project “Processi Innovativi per la Conversione dell’Energia (PrinCE), PON 2007-2013 Potenziamento delle strutture e delle dotazioni scientifiche e tecnologiche”, supported by the Italian

University and Research National Ministry. Budget: 12.400.000 Euros. The research project aimed to create a network of Laboratories involved in renewable energies research. Role: scientific responsible for the workpackage WP8-LA1 "Acquisto attrezzature sala prove test accelerati di affidabilità sistemi elettronici di potenza". The WP8-LA1 "Acquisto attrezzature sala prove test accelerati di affidabilità sistemi elettronici di potenza" was a portion of the activity WP8 — DISEGNI ARCHITETTURALI, SPECIFICHE, SVILUPPO, ACQUISIZIONE DEI COMPONENTI HARDWARE E SOFTWARE E COLLAUDO – MAE LEP LACOD LAR EFB. Years: 2012-2015.

- Research project PON "R &C" 2007 - 2013 - ASSE I: "SOSTEGNO AI MUTAMENTI STRUTTURALI" - OBIETTIVO OPERATIVO 4.1.1.1 "ASSE SCIENTIFICO-TECONOLOGICHE GENERATRICI DI PROCESSI DI TRASFORMAZIONE DEL SISTEMA PRODUTTIVO E CREATRICI DI NUOVI SETTORI" - AZIONE II: "INTERVENTI DI SOSTEGNO ALLA RICERCA INDUSTRIALE" - AVVISO N. 01/RJC DEL 18 GENNAIO 2010 - PONOI_,00700 "AMBITION POWER". The project was supported by the Italian University and Research National Ministry. The project was focused on the development of new power conversion modules and devices based on Si and SiC. Politecnico di Bari Unit Budget: 785.000 Euros. Role: scientific responsible for Workpackages: RI 1.2 Definizione Architettura e Specifiche Moduli integrati per Applicazioni Automotive, Industriali e Aeronautiche; RI 1.3 Definizione architetture e specifiche degli inverter per applicazioni industriali ad alta potenza ed alta frequenza; RI 5.3 Progettazione e realizzazione dimostratore inverter ad alta frequenza per applicazioni fotovoltaiche ed eoliche; RI 5.6 Test e Validazione a banco Inverter ad alta frequenza. Years: 2011-2014.

- Research project “Smart Energy Boxes - Progettazione di sistemi per la produzione efficiente, la gestione e l’accumulo di energia elettrica e termica, integrati e interconnessi in un Virtual Power Plant” supported by the Italian University and Research National Ministry. The target was the development of some power conversion stage units denoted as “Smart Energy Boxes” managing different energy vectors for the demand of medium size buildings. Ruolo: researcher. Years: 2012-2015.

- Research project “Centre of Research Excellence for Advanced Cooperative Systems” (ACROSS), SEVENTH FRAMEWORK PROGRAMME THEME REGPOT-2011-1- Support actions funded by the European Union. Main investigator: University of Zagreb (UNIZG-FER), partner: Politecnico di Bari. Role: expert for Early Stage Researcher (ESR) guidance (Phd Candidate: Tomislav Pavlovic) and Representative for the research unit Politecnico di Bari. Duration: 10/01/2011-03/30/2015

- Research project PRIN 2008 “Miniturbine eoliche per funzionamento universale (grid-connected, stand-alone, microgrid)” funded by the Italian Research Ministry. The main investigator was the Politecnico di Bari. The research project had as final result the power conversion stage demonstrator for a wind turbine system. The control system was designed in order to ensure "universal" operation of the system. Role: researcher. Duration: 03/22/2010- 09/22/2012.

**Institutional Activities**

• Member of the administrative council of the Italian organization denoted as CMAEL – Convertitori Macchine ed Azionamenti Elettrici. CMAEL is the association gathering all the Italian researchers in the Scientific Sector ING-IND/32 “Power Converters, Electrical Machines and Drives, https://cmael.it/governo-dellassociazione/, Years: 2020-2024.

• Deputy member of the administrative council of the Italian organization denoted as CMAEL – Convertitori Macchine ed Azionamenti Elettrici. CMAEL is the association gathering all the Italian researchers

in the Scientific Sector ING-IND/32 “Power Converters, Electrical Machines and Drives, https://cmael.it/governo-dellassociazione/, Years: 2017-2020.

- President of the Quality Evaluation Board for the Council gathering the following degree courses: B.Sc in Electronic Engineering, B.Sc in Biomedical Engineering, M.Sc in Electrical and Automation Engineering, M.Sc in Electronic Systems Engineering, M.Sc in Biomendical Engineering, M.Sc in Telecommunication Enginering, University of Florence, Years: 2021, 2022.

- Representative of the Degree Course M.Sc in Electrical and Automation Engineering in the Quality Evaluation Board for the Council gathering the following degree courses: B.Sc in Electronic Engineering, B.Sc in Biomedical Engineering, M.Sc in Electrical and Automation Engineering, M.Sc in Electronic Systems Engineering, M.Sc in Biomendical Engineering, M.Sc in Telecommunication Enginering, University of Florence. Years: 2017, 2018, 2019, 2020, 2021, 2022.

- External Evaluator for the quality of the research activities within the Italian program VQR 2015-2019.

- Member of the Selection Committee UdL-LE-231-036 (Serra Húnter Programme), Tenure-eligible Lecturers, profile: Renewable Energies, February 2024- April 2024.

- • Member of the assessment committee of the applicants for the position of one researcher- art. 24, comma 3, lett. a), L. 30/12/2010, n. 240 , Scientific Sector SSD ING-IND/32 –Power Converters, Electrical Machines and Drives, University of Palermo, Italy, July 2023.

- Member of the assessment committee of the applicants for the position 2021-224-03845 Associate Professor in Battery Systems, Aalborg University, Denmark, May 2022.

- Member of the assessment committee of the applicants for the position of Associate Professor, Scientific Sector SSD ING-IND/32 –Power Converters, Electrical Machines and Drives, Politecnico di Milano, Italy, July 2022.

- Member of the assessment committee of the applicants for the position of Associate Professor, Scientific Sector SSD ING-IND/32 –Power Converters, Electrical Machines and Drives, Politecnico di Milano, Italy, January 2022.

- Member of the assessment committee of the applicants for the position of one researcher- art. 24, comma 3, lett. a), L. 30/12/2010, n. 240 , Scientific Sector SSD ING-IND/32 –Power Converters, Electrical Machines and Drives, Università di Napoli Federico II, Italy, October 2021.

- Member of the assessment committee of the applicants for the position of one researcher -comma 3, lettera a), art.24 della Legge 240/2010, Scientific Sector SSD ING-IND/32 –Power Converters, Electrical Machines and Drives, Politecnico di Torino, Italy, May2021.

- Member of the assessment committee of the applicants for the position of one researcher -comma 3, lettera a), art.24 della Legge 240/2010, Scientific Sector ING-IND/33 “Electric Power Systems”, University of Trieste, Italy, 2020.

- Member of the assessment committee for one Assistant Professor position in Photovoltaic Systems, Institut for Energiteknik, Aalborg University, Denmark, 2018.

• Member of the assessment committee of the applicants for the position of one researcher- art. 24, comma 3, lett. a), L. 30/12/2010, n. 240, Scientific Sector SSD ING-IND/32 –Power Converters, Electrical Machines and Drives, Università degli Studi di Napoli Federico II, Italy, 2018.

• Member of the assessment committee of the applicants for the position of one researcher -comma 3, lettera a), art.24 della Legge 240/2010, Scientific Sector SSD ING-IND/32 –Power Converters, Electrical Machines and Drives, Università di Bologna, Italy, 2017.

• Member of the board for guidance activities, University of Florence. Years: 2016-2018.

• Member of the Board for the Engineer Qualifying Examination, Florence, Year: 2016.

**Acknowledgements and Prizes**

- IEEE Senior Member (from December 2018 -ongoing activities)

- Best Presentation Award 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering, CPE-POWERENG 2023, 14-16 June 2023, Tallin, Estonia.

-Best Poster Paper Award for the paper "Voltage Control of Microgrid Systems Based on 3L-NPC Inverters with LCL-Filter in Islanding Operation", international Conference IEEE ICRERA 2015, Palermo, Italy.

- Certificate of acknowledgement for results obtained in research activities, Marisa Bellisario Foundation on the occasion of the Prize "Le protagoniste 2011 - Premio Marisa Bellisario", Edition XXIII.

- Best Paper scholarship funded by IEEE Industrial Electronics Society Student Activities Committee for the paper "Droop Control of a Multifunctional PV Inverter" published at IEEE International Symposium on Industrial Electronics ISIE'08, Cambridge, UK.

- Best Graduate Prize (M.Sc Degree) funded by Rotary Club Bari, Bari, Italy, 2005.

- Member of Italian Electrotechnical and Electronic Association (AEIT) since 2005.

**Publications List:**

*International Books Chapters*

- [B1]. M. Liserre, R. A. Mastromauro, A. Nagliero, "Universal operation of small/medium size renewable energy systems", Chapter 9 in "Power Electronics for Renewable Energy Systems, Transportation, and Industrial Applications", First Edition Edited by Haitham Abu-Rub, Mariusz Malinowski and Kamal Al-Haddad © 2014 John Wiley & Sons, Ltd. Published 2014 by John Wiley & Sons, Ltd, pp. 231-269, July 2014, ISBN: 978-1-118-63403-5, Codice Web of Science: WOS:000351176300011, Codice Scopus: 2-s2.0-84927680056.

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- [J1]. R. A. Mastromauro, M. Liserre, A. Dell'Aquila, "Study of the Effects of Inductor Nonlinear Behavior on the Performance of Current Controllers for Single-Phase PV Grid Converters", IEEE Transactions on Industrial Electronics, vol. 55, no 5, pp. 2043–2052, May 2008, ISSN: 0278-0046, doi: 10.1109/TIE.2008.917117, Codice Scopus: 2-s2.0-44349117918; Codice Web of Science: WOS:000255677200016.

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