



Leonardo Gasperini

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WORK EXPERIENCE

ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA – BOLOGNA, ITALY
RESEARCH FELLOW – 01/01/2025 – CURRENT

Development of nanofibrous materials for electrical applications

ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA – BOLOGNA, ITALY
PHD STUDENT – 01/2022 – 31/12/2024

Renewable energy communities and storage systems: development of electrospun nanofibrous separators for energy harvesting and storage applications.

THE UNIVERSITY OF TOKYO – TOKYO, JAPAN
VISITING RESEARCHER – 01/02/2024 – 30/06/2024

Polarization of piezoelectric nanofibrous samples for energy harvesting and sensing applications

ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA – BOLOGNA, ITALY
UNIVERSITY TEACHING ASSISTANT – 01/09/2022 – CURRENT

- A.A. 2022/2023 Teaching Assistant per il corso di Progettazione e Diagnostica dei Sistemi Isolanti Elettrici per il CdS magistrale di Ingegneria dell'Energia Elettrica
- A.A. 2023/2024 Teaching Assistant per il corso di Tecnologie Innovative per la Produzione e l'Accumulo dell'Energia Elettrica per il CdS magistrale di Ingegneria Energetica
- A.A. 2023/2024 Teaching Assistant per il corso di Progettazione e Diagnostica dei Sistemi Isolanti Elettrici per il CdS magistrale di Ingegneria dell'Energia Elettrica
- A.A. 2024/2025 Teaching Assistant per il corso di Tecnologie Innovative per la Produzione e l'Accumulo dell'Energia Elettrica per il CdS magistrale di Ingegneria Energetica
- A.A. 2024/2025 Teaching Assistant per il corso di Progettazione e Diagnostica dei Sistemi Isolanti Elettrici per il CdS magistrale di Ingegneria dell'Energia Elettrica

ARCES - UNIVERSITÀ DI BOLOGNA – BOLOGNA, ITALY
RESEARCH FELLOW – 04/2021 – 12/2021

Optimization of the polarization process for piezoelectric PVDF and PZT nanofibers in order to maximize the d33 coefficient and thus the converted mechanical energy.

ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA – BOLOGNA, ITALY
CURRICULAR INTERNSHIP – 10/2020 – 02/2021

Participation in the EU project "MyLeg", aimed at the development of a smart and intuitive osseointegrated transfemoral prostheses.
Production of piezoelectric ceramic nanofibers films.

EDUCATION AND TRAINING

01/2022 – 31/12/2024 Bologna, Italy
PH.D. CANDIDATE IN BIOMEDICAL ELECTRICAL AND SYSTEMS ENGINEERING - ELECTRICAL CURRICULUM University of Bologna

Level in EQF EQF level 7 | **Thesis** Ottimizzazione della risposta elettromeccanica di provini piezoelettrici ceramici nanofibrosi**Level in EQF** EQF level 6 | **Thesis** Dimensionamento di massima di un impianto fotovoltaico stand-alone**LANGUAGE SKILLS**Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1

*Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user***SKILLS**

ThermoFlex | Microsoft Office: Word, Excel, Access, Power Point, Outlook. | MATLAB&Simulink | COMSOL Multi-Physics | NI LabVIEW 2019 | AutoCad 2D -3D

PUBLICATIONS

2021

[1] G. Selleri et al., "Study on the polarization process for piezoelectric nanofibrous layers," in Annual Report - Conference on Electrical Insulation and Dielectric Phenomena, CEIDP, 2021, vol. 2021-Decem, pp. 61–64. doi: 10.1109/CEIDP50766.2021.9705470.

2022

[2] G. Selleri, L. Gasperini, L. Piddu, and D. Fabiani, "Comparison between AC and DC polarization methods of piezoelectric nanofibrous layers," in 2022 IEEE 4th International Conference on Dielectrics (ICD), Jul. 2022, pp. 90–93. doi: 10.1109/ICD53806.2022.9863546.

2022

[3] A. Bužarovska et al., "PVDF/BaTiO3 composite foams with high content of β phase by thermally induced phase separation (TIPS)," J. Polym. Res., vol. 29, no. 7, 2022, doi: 10.1007/s10965-022-03133-z.

2022

[4] L. Gasperini, G. Selleri, D. Pegoraro, and D. Fabiani, "Corona poling for polarization of nanofibrous mats advantages and open issues," 2022 IEEE Conf. Electr. Insul. Dielectr. Phenom. (CEIDP),2022.

2022

[5] G. Selleri, L. Gasperini, M. Zanoni, F. Depalma, C. Gualandi, and D. Fabiani, "Characterization of piezoelectric nanofibers for energy harvesting applications," Annu. Rep. - Conf. Electr. Insul. Dielectr. Phenomena, CEIDP, pp. 270–273, 2022, doi: 10.1109/CEIDP55452.2022.9985262.

2023

[6] G. Selleri et al., "Energy harvesting and storage with ceramic piezoelectric transducers coupled with an ionic liquid-based supercapacitor," J. Energy Storage, vol. 60, no. April 2023, p. 9, 2023, doi: 10.1016/j.est.2023.106660.

2023

[7] M. Kubin et al., "Effects of nano-sized BaTiO₃ on microstructural, thermal, mechanical and piezoelectric behavior of electrospun PVDF/BaTiO₃ nanocomposite mats," Polym. Test., vol. 126, p. 108158, Sep. 2023, doi: 10.1016/j.polymertesting.2023.108158.

2023

[8] M. Kubin, P. Makreski, M. Zanoni, and G. Selleri, "Piezoelectric properties of PVDF-TrFE / BaTiO₃ composite foams with different contents of TrFE units," Polym. Compos., vol. 44, no. 8, pp. 1–13, 2023, doi: <https://doi.org/10.1002/pc.27667>.

2023

[9] E. Stojchevska et al., "Piezoelectric PVDF-TrFE nanocomposite mats filled with BaTiO₃ nanofibers: The effect of poling conditions," Polym. Adv. Technol., vol. 35, no. 2, 2024, doi: 10.1002/pat.6333.

2023

[10] L. Gasperini, S. Gandolfi, S. V Suraci, and D. Fabiani, "Electrical and mechanical properties of electrospun PVDF-HFP with ZrO₂ nanoparticles used as separator in electrochemical systems," 2023 IEEE Conf. Electr. Insul. Dielectr. Phenom., pp. 1–4, 2023, doi: 10.1109/CEIDP51414.2023.10410461.

2023

[11] L. Gasperini, A. Rumi, G. Selleri, D. Fabiani, and P. Seri, "Optimization of Corona Triode Polarization by 2D Electrostatic Mapping," IEEE Conf. Electr. Insul. Dielectr. Phenom., pp. 1–4, 2023, doi: 10.1109/CEIDP51414.2023.10410529.

2024

[12] L. Gasperini, G. Selleri, and D. Fabiani, "Highly Sensitive Piezoelectric Ceramic Nanofibers for Flexible Transducers and Advanced Applications," Proc. 2024 IEEE 5th Int. Conf. Dielectr. ICD 2024, pp. 1–4, 2024, doi: 10.1109/ICD59037.2024.10613172.

2024

[13] D. Mariani et al., "Lambert W Function Applications in Electrical Insulation Engineering," IEEE Trans. Dielectr. Electr. Insul., 2024, doi: 10.1109/TDEI.2024.3469154.

2025

[14] L. Gasperini et al., "Corona triode poling of P(VDF-TrFE) nanofibers: Mechanisms and optimization strategies," J. Sci. Adv. Mater. Devices, vol. 10, no. 2, p. 100870, 2025, doi: 10.1016/j.jsamd.2025.100870.

Autorizzo il trattamento dei miei dati personali presenti nel CV ai sensi dell'art. 13 d. lgs. 30 giugno 2003 n. 196 - "Codice in materia di protezione dei dati personali" e dell'art. 13 GDPR 679/16 - "Regolamento europeo sulla protezione dei dati personali".

Bologna , 04/06/2025



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