Alessia Arrigoni is a materials and nanotechnology engineer. She is actually attending a PhD in materials engineering at Politecnico di Milano. From her research experiences, she is aware of the power of collaboration and of the fruitful discussion with people having different backgrounds to achieve together results otherwise unattainable, growing her critical sense and improving her know-how. The area of advanced functional materials is truly fascinating to her, as it opens to innovative solutions combining existing materials in unconventional ways.

EDUCATION

- **Politecnico di Milano**

  PhD Student - XXXVI cycle, Materials Engineering

  Nov 2020 - expected end Jan 2024

- **Politecnico di Milano**

  M.Sc. Materials Engineering and Nanotechnology

  Sept 2017 - Dec 2019

- **Politecnico di Milano**

  B.Sc. Materials Engineering and Nanotechnology

  Oct 2013 - Feb 2017

TECHNICAL SKILLS

- FT-IR Spectroscopy
- Raman and FT-Raman Spectroscopy
- SEM microscopy
- Electrospinning and Spin Coating
- UV-Vis spectroscopy

LANGUAGES

Italian

English

Alessia Arrigoni

Materials and Nanotechnology Engineer

EXPERIENCE

PhD Student, Materials Engineering | Politecnico di Milano

nov 2020 – gen 2024

Functional electrospun **polymer nanofibers**: from manufacturing, to **characterization**, towards applications. Development, fundamental study of the **molecular structure** and characterization of functionalized electrospun nanofibers. Focus on optically active piezoelectric materials acting as nanoactuators and p-type conductive polymers.

Teaching Assistant | Politecnico di Milano

nov 2020 – Present

Teaching Assistant and assistant in educational experimental activities in two different B.Sc. courses: Tecnologie dei materiali nanostrutturati and Introduzione alla Scienza dei Materiali B.
Master thesis co-supervisor of four master students in Materials engineering and nanotechnology.

Research Fellow | SCITEC@CNR

feb 2020 – oct 2020

Development of optically active systems containing luminescent chromophores for application in the automotive feld (E-HUD).

RESEARCH ACTIVITIES

VISPEC - International conference on vibrational spectroscopy, Perugia

June 2023 **Oral Communication**

PETALS WINTER SCHOOL 2023, Claviere

Feb 2023 **Oral Communication**

2nd International Conference on Non-Covalent Interactions (ICNI), University of Strasbourg

July 2022 **Oral Communication**

International Summer School: Materials 4.0 – Bridging the scales, Technische Universität Dresden, Online event

Aug 2021 **Poster Presentation**

PUBLICATIONS

Molecular Mechanism of the Piezoelectric Response in the β-Phase PVDF Crystals Interpreted by Periodic Boundary Conditions DFT Calculations

G. Serra, **A. Arrigoni**, M. Del Zoppo, C. Castiglioni, M. Tommasini
Materials 2023, 16 (17)

Electrospinning of pullulan-based orodispersible films containing sildenafil

E. Ravasi, A. Melocchi, **A. Arrigoni**, A. Chiappa, C. G. M. Gennari, M. Uboldi, C. Bertarelli, L. Zema, F. Briatico Vangosa
International Journal of Pharmaceutics 2023, 643, 123258

Development and characterization of crosslinked PPO-based anion exchange membranes for AEM fuel cells

A. B. Peressut*, J. Montagna, P. Moretti, **A. Arrigoni**, S. Latorrata, C. Bertarelli, G. Dotelli
Solid State Ionics, 2023, 394, 116212

Conducting Electrospun Nanofibres: Monitoring of Iodine Doping of P3HT through Infrared (IRAV) and Raman (RaAV) Polaron Spectroscopic Features

A. Arrigoni, L. Brambilla, C. Castiglioni*, C. Bertarelli
Nanomaterials, 2022, 12, 4308

Morphology and Intramolecular Interactions in P(VDF-TrFE) Electrospun Nanofibers Doped with Disperse Orange 3 Dye: A Joint Infrared Spectroscopy and Electron Microscopy Study

A. Arrigoni, G. Serra, J. Manidi, C. Bertarelli, C. Castiglioni*
ACS Omega, 2022, 7, 12, 10660−10673

Physico-Mechanical Properties of Metal Matrix Self-Lubricating Composites Reinforced with Traditional and Nanometric Particles

M.Freschi*, **A. Arrigoni***, O. Haiko, L. Andena, J. Kömi, C. Castiglioni and G. Dotelli
Lubricants, 2022, 10, 35

P(VDF-TrFE) nanofibers: structure of the ferroelectric and paraelectric phases through IR and Raman spectroscopies

A. Arrigoni, L. Brambilla, C. Bertarelli, G. Serra, M. Tommasini and C. Castiglioni*
RSC Advances, 2020, 10, 37779-37796