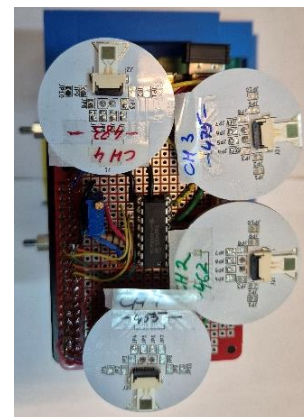
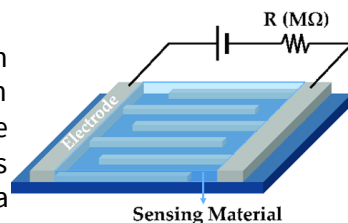


NET4Air: Towards the development of a platform with interchangeable air pollution sensors

The Net4Air project is a Coordination and Support Action funded by the European Commission under the Twinning framework. Within it, a core action is an exploratory research project aiming to develop a low-cost wearable/portable nanoelectronic based platform for air monitoring. Low-cost air quality monitors allow individuals and organizations to contribute to hyper-local pollution data that empowers communities to take proactive steps to breathe cleaner air while also providing researchers and policy advocates with the information they need to make healthy changes for a cleaner planet.

This presentation will cover the progress to the scientific component of the project, from the development of sensitive layers to their use in sensors and their integration into a platform that allows for a wide range of interchangeable sensors.

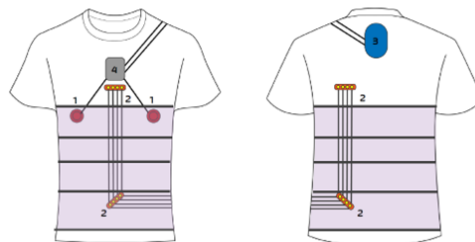
Alexandru Grigoroiu has completed his doctoral studies in the field of AI for early cancer detection and undergraduate studies in Biomedical Engineering at the University of Cambridge, UK. His research at IMT Bucharest is focused on implementing statistical analysis and machine learning techniques to environmental and biomedical sensors.



Personal Thermal Management Using Thermoelectric Technology And Textile-based Heat Exchangers

With the growing concerns of global warming and global energy shortages, personal thermoregulation devices have gained attention as a way to reduce the heavy energy consumption of traditional HVAC systems and to meet individual thermal comfort needs. The INAIL SMART-SHIRT project proposes an innovative solution: a smart shirt equipped

with integrated sensors that continuously monitor biometric parameters to manage thermal stress, particularly for workers exposed to high-temperature environments. The system uses thermoelectric modules that adjust heating or cooling based on real-time feedback, helping to stabilize body temperature. The design prioritizes efficient heat exchange using 3D textile-based heat exchangers, while also ensuring the shirt remains wearable, lightweight, and does not restrict movement.



Preliminary results highlight the key design challenges addressed and the development of a benchmark system for evaluating thermal management performance.

Dr Giovanna Latronico is a postdoctoral research fellow at CNR-ICMATE (Lecco-IT), MSc in Chemical Science from UNIGE-IT and PhD in Engineering from Shibaura IT-JP. Her main research interests are related to thermoelectric materials, both bulk and thin films, and their applications.



Webinar MATERIALS MATTER!
Dr. Alexandru Grigoroiu, IMT Bucharest, Romania
Dr. Giovanna Latronico, ICMATE Lecco

7th May 2025 h 3.00-4.00 pm
Participation [LINK](#)

