PERSONAL PROFILE

I am an **experimental** physicist with experience in alloy **synthesis** and **characterisation (SEM, XRD)**, physical model and data analysis, and software simulations. I'm dedicated to the study of **Solid State Physics** from an experimental and a computational point of view. More specifically, I'm focused on **renewable energy** technologies, **energy harvesting** and **storage** techniques based on Material Physics considerations.
I'm currently interested in green hydrogen production and storage.

CONTACT ME AT

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Evans Pericoli - LinkedIn

LANGUAGE

- **Italian (mother tongue)**
- **English (Advanced, C1)**

PROGRAMMING

- **MATLAB**
- **Python**
- **LabVIEW**
- **Office suite**

EVANS PERICOLI

SOLID STATE PHYSICIST

EDUCATIONAL HISTORY

University of Bologna Alma Mater Studiorum (2021/2023)

Master's degree in Physics (Material Physics and Nanoscience) - Physics Department A. Righi

Final degree 110 /110 with honours (110 L)

- In my master's thesis (part of the NoMaH project), I focused on synthesising and characterising hydride-forming metals for hydrogen storage applications. During the project, I personally carried out:
  - A preliminary calibration of Sievert's apparatus for volumetric measurements.
  - Thermodynamic, structural, compositional and morphological characterisation of several references (Pd, LaNi5, Hydralloy C5).
  - The synthesis of TiFe90Ni10 through arc melting and its characterisation.
- The project aimed to find a suitable substituent for the well-known TiFe alloy to improve its sorption properties.

Internship on material synthesis and characterisation (2023)

Department of Physics and Astronomy A. Righi (DIFA)

During my internship in the university laboratories, I learned:

- To synthesise stoichiometric alloys through an arc melter.
- To perform morphological and compositional analysis through SE-SEM and EDX spectroscopy.
- To extract structural information through Powder XRD and the implementation of the Rietvlend's refinement.
- To work in the LabVIEW environment to modify and implement routines in the Sievert's apparatus software to improve data acquisition procedures.
- To calibrate and model the behaviour of Sievert's apparatus for volumetric measurements working with the MATLAB environment.

ABOUT ME

I like working in stimulating and challenging environments. I'm a good team worker and builder, as I have often worked in research groups.
I have experience in event organisation for the university as I have been working for the LC AISF Bari.

NATIONALITY: ITALIAN

BASED IN: BOLOGNA

University of Bari Aldo Moro - (2017/2021)

Bachelor's degree in Physics - Physics Department M.Merlin

Final degree - 106/110

- In my bachelor's thesis, I focused on the Rayleigh and Brillouin scattering theory, analysing the differential cross-section of the former, and presenting a mathematical treatment for the latter through quantum mechanical considerations in the Raman-active processes, while proposing some practical applications in seismic measurements through signal processing in optical fibers.

Liceo Scientifico Galileo Galilei - (2012/2017)

Final degree - 100/100 with honours (100 L)

ACTIVITIES AND INTERESTS

- **EPS - SIF International School on Energy 2021** - Course 6, Summer School on Energy innovation and integration for a clean Environment.
- **AISF Member since 2018**
  Event organizer for LC ASIF Bari 2020/2021

  Organized events:
  - Black Holes seminar with prof. Luciano Rezzolla
  - European Researchers' Night 2020
  - Elementary school science publication projects

WORKSHOP

- **Winter Workshop** (UniBo, 2021) with a poster on nanostructured **thermoelectric materials** for energy harvesting applications.
- **Spring Workshop** (UniBo, 2022) with a presentation on the hybrid classical/Ab initio **molecular dynamics** for tribology investigations of materials.