



# Benedetta Bertoni

## WORK EXPERIENCE

01/01/2018 – 09/09/2023 Massa, Italy

### PRIVATE TEACHER

- Private lessons of mathematics, physics, chemistry and informatics for middle school and high school students
- Preparation for written and oral exams

## EDUCATION AND TRAINING

2020 – 2023 Pisa, Italy

### MASTER'S DEGREE IN PHYSICS University of Pisa

Main **courses** of the degree:

- Laboratory of quantum optics
- Introduction to light-matter interaction
- Solid state physics
- Statistical physics
- Photonic devices physics
- Disordered systems
- Nanoscopy and spectroscopy of nanomaterials

My **thesis** work dealt with the optimization of a THz detector based on a trampoline shaped microresonator. In particular, it was focused on the implementation of an all-electrical read-out method and the introduction of appropriate coatings layers (graphitic materials) able to improve the detector responsivity. My main tasks were:

- Spectroscopic measurements employing micro-FTIR spectroscopy and THz-Time domain spectroscopy
- Graphene exfoliation and transfer via a polymeric vector
- Design of the device sample holder
- Detector characterization measurements employing a Lock-in amplifier and different radiation sources (Near-infrared and sub-THz)
- Matlab numerical simulations

**Address** Largo Bruno Pontecorvo 3, Pisa, Italy | **Website** <https://www.df.unipi.it> | **Field of study** Physics of Matter |

**Final grade** 110/110 cum Laude | **Level in EQF** EQF level 7 | **National classification** 9 | **Type of credits** ECTS |

**Number of credits** 120 | **Thesis** "Surface THz absorbers for thermomechanical microbolometers"

2016 – 2020 Pisa, Italy

### BACHELOR'S DEGREE IN PHYSICS University of Pisa

**Address** Largo Bruno Pontecorvo 3, Pisa, Italy | **Website** <https://www.df.unipi.it> | **Field of study** Physics |

**Final grade** 99/110 | **Level in EQF** EQF level 6 | **National classification** 7 | **Type of credits** ECTS |

**Number of credits** 180 | **Thesis** "Transparent nanostructured metals"

2010 – 2016 Massa, Italy

### HIGH SCHOOL DIPLOMA Liceo scientifico opzione scienze applicate - I.I.S "A.Meucci"

Additional experiences:

- Math games

- 2014 - Study trip at *Rider University* (Los Angeles)
- 2015 - Summer stage at *Scuola Superiore Sant'Anna* (Pisa)
- 2016 - Summer stage at *Centro Nazionale di Ricerca (CNR)* of Frascati (Italy)

**Address** Via Marina Vecchia, Massa, Italy | **Website** <https://www.iismeuccimassa.it> |

**Final grade** 100/100 cum Laude

## LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	C1	C1	C1	C1	C1
<b>GERMAN</b>	A1	A1	A1	A1	A1

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

## DIGITAL SKILLS

### Scientific Collaboraton

Overleaf - LaTeX | Microsoft Office

### Programming Languages

MATLAB | Python | C | C++

### Simulation Softwares

COMSOL Multiphysics

### Document writing

Microsoft Office (Word, Excel, Powerpoint, Outlook, OneNote) | LaTeX

## ADDITIONAL INFORMATION

### DRIVING LICENCE

**Driving Licence:** B

### CONFERENCES AND SEMINARS

2023 – Lucca

**Summer school - "2D Quantum Matter"** The programme consisted of 12 frontal lectures, led by renowned scientists, focused on 2D materials such as graphene and other graphene-related materials. In particular, the lectures dealt with the state-of-the-art theory, synthesis, nanofabrication and electronic/optoelectronic applications of 2D crystals.

**Poster session:** I presented my thesis work, with the title 'Surface absorbers for thermomechanical bolometers'.

**Link** <https://sites.google.com/view/2dqm/home>

07/2023 – Paris, France

**META 2023** Abstract and poster regarding the project that includes my thesis work for META 2023, an international conference on Metamaterials, Photonic Crystals and Plasmonics.

HOBBIES AND INTERESTS

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CERTIFICATIONS

ECDL
B2 First, Cambridge Institute
Goethe Zertifikat A1, Goethe Institut

La sottoscritta, consapevole che – ai sensi dell'art. 76 del D.P.R. 445/2000 – le dichiarazioni mendaci, la falsità negli atti e l'uso di atti falsi sono puniti ai sensi del codice penale e delle leggi speciali, dichiara che le informazioni rispondono a verità. La sottoscritta in merito al trattamento dei dati personali esprime il proprio consenso al trattamento degli stessi nel rispetto delle finalità e modalità di cui al d.lgs. n. 196/2003.