

PERSONAL INFORMATION		
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CURRENT POSITION SSD (if applicable)	PhD student @ Department of Physics, Sapienza University, Rome	
RESEARCH TOPICS / EXPERIENCES	Optical and vibrational spectroscopy, High pressure Spectroscopy	
SCIENTIFIC / TECHNICAL QUALIFICATION (source: Scopus)	▪ H-index:	▪ 1
	▪ No. publications:	▪ 3
	▪ No. citations:	▪ 2
THEMATIC AREA KEYWORDS (it is possible to select one or more than one thematic area)	▪ Energy transition:	▪ Yes
	▪ Digital transition:	▪ No
	▪ Bio-pharma & health:	▪ No

## EDUCATION AND TRAINING

[Start from the most recent.]

Sept 2021-Oct 2023	Master's Degree in Condensed Matter Physics (110/110 cum Laude)
Sept 2018-Oct 2021	Bachelor's degree in physics (110/110 cum Laude)
Sept 2013-July 2018	High-School Diploma (100/100 cum Laude)

## WORK EXPERIENCE

### MAIN ROLES AND RESPONSIBILITIES

[Start from the most recent.]

2025	Tutoring activities : Physics II course @ Environmental Engineering
2024	Tutoring activities : mentoring master's students.

### MAIN RESEARCH EXPERIENCE

[List of main research project and research collaborations. Start from the most recent.]

Sept 2024	One week of beam time for infrared spectroscopy measurements at the SOLEIL Synchrotron in Paris.
2023-2024	Several weeks of beam time during this 2-year period for Time Resolved Raman spectroscopy measurements at the ELETTRA Synchrotron in Trieste.

2023-2024	Research activities of the first year of the PhD program: understanding the fundamental of high-pressure optical and vibrational spectroscopy and its application to low dimensional materials such as TMDs and 2D perovskites.
2022-2023	Master's degree Thesis Internship: Spectroscopic investigation on the role of defects in the optical response of low-dimensional TMDs.
2021	Bachelor's degree Thesis Internship: Data analysis of a KID detector for low energy nuclear recoil.

## OTHER RELEVANT EXPERIENCES

[List of main other experiences, i.e. constitution of start-up). Start from the most recent.]

2006-2018	Competitive swimming
Jun 2017	National Summer School for Students on Modern Physics at Udine University.

## HONOURS, AWARDS, MEMBERSHIPS, OTHER QUALIFICATIONS

[List of main other experiences, i.e. constitution of start-up). Start from the most recent.]

Nov 2025	Tutor in the project "Orientamento Next Generation – Sapienza"
Nov 2025	Sapienza PhD Internationalisation Call: Amount funded: 2.100 €.
Nov 2024	Type 1 Initial Research Projects Grant. Title: High Pressure Chirality Tuning - Effects on the Optical and Lattice Properties in 2D Perovskites. Duration: 2024-2025. Amount funded: 1.000 €.
2023	Honour Programme of the Physics Department of Sapienza
Sept 2023	Best Poster Award, Annual SILS conference in Rome.
Sept 2023	Best Communication, Annual SIF conference in Rome.
2023	Scholarship for Research Activities on "Optimization of Software for the Analysis of Optical Transmission Spectroscopy Data and its Application to Measurements of Interest on Nanostructured and Colloidal Systems" by SOSpESO. Amount funded: 1.500 €.
Jun 2017	Honour student, National Summer School for Students on Modern Physics at Udine University

## ADDITIONAL INFORMATION

### Publications

11573/1724956 - 2024 - Investigating the effects of sample-substrate interaction in the Raman and photoluminescence spectrum of 1L-WS2 CAPECCIA, MATTIA; D'ALÒ, BEATRICE; STELLINO, ELENA

11573/1747190 - 2025 - Transient photodoping and phonon dynamics in bulk and monolayer MoS2 by time resolved Raman scattering. FINARDI, ALICE MARGHERITA; FASOLATO, CLAUDIA; GIUGNI, ANDREA; CAPECCIA, MATTIA; POSTORINO, PAOLO, NPJ 2D MATERIALS AND APPLICATIONS

11573/1744690 - 2025 - Exciton-to-trion conversion in monolayer WS2 under pressure. D'ALÒ, BEATRICE; CAPECCIA, MATTIA; BOERI, LILIA; POSTORINO, PAOLO; STELLINO, ELENA. NANO LETTERS

### Talks

- September 2025 – Invited Talk: “Chirality-Modulated Pressure Response of Organic–Inorganic Interactions in Hybrid Perovskites”, presented at Young Innovation Conference, Rome.
- July 2025 – Talk: “Chirality-Modulated Pressure Response of Organic–Inorganic Interactions in Hybrid Perovskites”, presented at FISMAT 2025, Venice.
- September 2023 – Talk: “Investigation of the Pressure Evolution of the Excitonic Band in Bare and Encapsulated TMD Monolayers”, presented at the Annual SIF Conference, Salerno.

*According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV*

Rome, 04/11/2025

*Mattia Capeccia*