

# Valentina Astore

PHD STUDENT

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Date of birth: 21/01/2000 · Nationality: Italian

## Education

### PhD in Computer Science

INRIA PARIS-SACLAY & ÉCOLE POLYTECHNIQUE

Palaiseau, France

Oct. 2024 - Present

- Supervisors: Alain Couvreur and Martino Borello
- Research Areas: Algebraic Coding Theory, Finite Fields, Finite Geometry, and applications to Cryptography.

### Master of Science in Mathematics, curriculum Cryptography

UNIVERSITY OF TRENTO

Trento, Italy

Sept. 2021 - March 2024

- Highly selective Master program (10 students per year, with admission test).
- Attended courses, held in English (with scores out of 30):
  - *Algebra and its applications*: Advanced Number Theory (30 with honour), Advanced Coding Theory (30), Algebraic Cryptography (28), Applied Cryptography (30 with honour), Coding Theory and Applications (30 with honour), Computational Algebra (28).
  - *Computer science*: Advanced Programming of Cryptographic Methods (30 with honour), Formal Techniques for Cryptographic Protocol Analysis (30), Introduction to Computer and Network Security (30), Scientific Computing (29).  
Known programming languages: MAGMA, C, Java, Python, MatLab (base level) and R (base level).
  - *Information theory*: Data Hiding (30 with honour), Digital Signal Processing (29), Stochastic Processes (28).
  - *Foreign languages*: English - Level C1.
- Graduation grade: 110 with honour/110.

### Master's Project

UNIVERSITY OF PARIS 8 - LAGA

Saint-Denis, France

Oct. 2023 - Dec. 2023

- Topics: Coding Theory, Rank-Metric Codes, Distinguishers, Castelnovo-Mumford Regularity.
- Supervisors: Martino Borello (University of Paris 8) and Marco Calderini (University of Trento).

### Bachelor of Science in Mathematics

UNIVERSITY OF TRENTO

Trento, Italy

Sept. 2018 - Sept. 2021

- Attended courses: Algebra, Analysis, Classical Physics, Computer Science, Geometry, Probability and Statistics.
- Bachelor's project: "Paillier Cryptosystem", Supervisor: Nadir Murru (University of Trento).
- Graduation grade: 108/110.

## Workshops and Courses

### WORKSHOPS

#### Contributed talk. 14-16 February 2024, Caserta (Italy).

Event: OpeRa 2024 - Open Problems on Rank-Metric Codes

Topics: Latest advancements in rank-metric code theory.

Title of the talk: *Castelnovo-Mumford Regularity in the Rank Metric*.

### COURSES

#### PQCifris 2022 School on Post-Quantum Cryptography. October 2022, Trento (Italy).

Organizers: University of Trento and De Componendis Cifris (Italian national association).

Topics: introduction to post-quantum cryptography, multivariate-based, code-based, isogeny-based, and lattice-based methods.

#### De Cifris Trends in Modern Cryptography. March 2022 - May 2022, Trento (Italy).

Organizer: De Componendis Cifris (Italian national association).

Topics: post-quantum cryptography, cloud encryption and secure multiparty computation.

## Professional Experience

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### Substitute Teacher

SCUOLA PRIMARIA MARCONI

- On-call work
- Sector: Education (primary school).

*Bassano del Grappa (VI), Italy*

*May 2024*

### Research and Development Programmer

BV TECH S.P.A.

- Internship experience, held remotely.
- Sector: IT Services and IT Consulting.
- Tasks: Analyze and improve the security strength of a communication service for messages and VoIP calls.

*Milano, Italy*

*March 2023 - July 2023*

### Administrative assistant

ESSENTIAL 6 LTD

- Internship experience.
- Sector: First Aid & Safety Training .
- Tasks: Management of electronic and paper mail, production and revisions of customer's certificates, organization of team building events for the staff.

*Torquay, United Kingdom*

*August 2017- Sept. 2017*

## Additional Information

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### PERIODS OF UNEMPLOYMENT

- April 2024, June 2024 - September 2024
- July 2018 - August 2018

### REFERENCES

- Alain Couvreur (INRIA & LIX)
- Martino Borello (University Paris 8)
- Marco Calderini (University of Trento)