

Personal Information

Birthplace: Taranto (Italy)

Birthdate: May 18, 1990

Citizenship: Italian

Research Interests

Algebraic Coding Theory, Computer Algebra, Cryptography

Current Position

September 2022 **Maîtresse de Conférences**, *team Calcul Formel, XLIM, Université de Limoges*,
Now France

Education

2020-2022 **Post-Doc**, *team GRACE, LIX (Laboratoire d'Informatique de l'École Polytechnique), INRIA Saclay-Île-de-France*, France

2021 **Qualified in section 25-26-27 (CNU)**

2017-2020 **Ph.D. program in Computer Science**, *LIRMM, University of Montpellier*, France, Supervisors: Laurent Imbert, Eleonora Guerrini, Romain Lebreton
Thesis: “Simultaneous Rational Function Reconstruction and Applications to Algebraic Coding Theory.”

2014-2017 **Master Degree in Mathematics (Coding Theory and Cryptography)**, *University of Trento*, Italy, Thesis: “Primitivity of generalized translation based block ciphers”
Final mark: 110/110 cum laude

2009-2014 **Bachelor Degree in Mathematics**, *University of Bari*, Italy, Thesis: “Primality tests and factorization algorithms: a cryptographic approach”
Final mark: 106/110

2004-2009 **High School Diploma (Science Studies)**, *Liceo Scientifico Battaglini*, Taranto, Italy
Final mark: 100/100

Professional Experiences

February–July 2016 **Internship at AliasLab S.p.A.**, *Via Cremona 27/6, Mantova, Italy*, *Design and implementation of an electronic signature software using the Bitcoin Blockchain and Ethereum*
Business sector: computer science

Publications

Proceedings

- 2023 **An extension of Overbeck's attack with an application to cryptanalysis of Twisted Gabidulin-based schemes.** , *Alain Couvreur, Iliaria Zappatore*, Proceedings of PQCrypto'23
- 2021 **Polynomial Linear System Solving with Random Errors: New Bounds and Early Termination Technique**, *Eleonora Guerrini, Romain Lebreton, Iliaria Zappatore*, Proceedings of ISSAC'21
- 2020 **On the Uniqueness of the Simultaneous Rational Function Reconstruction**, *Eleonora Guerrini, Romain Lebreton, Iliaria Zappatore*, Proceedings of ISSAC'20
- 2019 **Polynomial Linear System Solving with Errors by Simultaneous Polynomial Reconstruction of Interleaved Reed-Solomon codes**, *Eleonora Guerrini, Romain Lebreton, Iliaria Zappatore*, Proceedings of ISIT'19

Journals

- 2022 **Simultaneous Rational Function Reconstruction with Errors: Handling Multiplicities and Poles.** , *Eleonora Guerrini, Kamel Laredj, Romain Lebreton, Iliaria Zappatore.*, Journal of Symbolic Computation 116,1
- 2019 **Wave-shaped round functions and primitive groups**, *Riccardo Aragona, Marco Calderini, Roberto Civino, Massimiliano Sala, Iliaria Zappatore*, Advances in Mathematics of Communications 13,1

Preprints

- 2020 **Enhancing simultaneous rational function recovery: adaptive error correction capability and new bounds for applications**, *Eleonora Guerrini, Romain Lebreton, Iliaria Zappatore*

Awards

- 2018 **Merit Award 2018 for master students**, *University of Trento*, Italy

Active Involvement in Scientific Activities

- 2023 **Member of the CNRS PEPR PQ**
- 2022 **Member of the ANR Project Barracuda**, *The goal of this project is to bring together researchers specialized in coding and cryptography on the one hand and in number theory and algebraic geometry on the other hand to work on cryptographic problems requiring the introduction of advanced algebraic structures and/or techniques, such as distributed storage, multiparty computation or zero-knowledge disclosure proofs.*
- 2021 **Reviewer of the proceedings of ISSAC'21, ISIT'24, and of the journal IEEE Transaction on Information Theory**

2020 **Member of the Organizing Committee of STACS 2020**, *Montpellier, France*, Website developer

Scientific Divulcation

2022 **Animator of a research atelier at the *Rendez-vous des jeunes mathématiciennes et informaticiennes***, *Inria-Saclay, France*

Event aiming to arise interest in research in mathematics and computer science to young high school girls.

2018 **Member of the Organizing Committee of MATH.en.JEANS**, *Montpellier, France*

Conference that aims to let secondary and high school students discover the research in math.

Technical Skills

Languages C++, C, Java, C#, .NET, HTML/CSS, Javascript, PHP, Magma, Python, sagemath, Matlab, RStudio, The Coq Proof Assistant, scheme

Extra-Curricular Activities

Languages: English (B2), French (C1), Italian (Mother Tongue)

Others: I love to sing, I am a black belt in karate, I have been a volunteer for disabled for many years.