

# Elia Vincenzi

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## EDUCATION

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### Ph.D. in Mathematics

*University of Rome II "Tor Vergata,,*

Rome, Italy

*1st November 2020 – 31st October 2023*

Cycle: XXXVI

Research area: Operator Algebras and Quantum Field Theory

Tutor: prof. Roberto Longo

In 2018, the Department of Mathematics of the University of Rome II "Tor Vergata,, has been ranked first in Italy among the Departments of Mathematics in the most recent Research Assessment Exercises. The Department of Mathematics has hence benefited of an extra-funding. Those funds has been largely exploited for additional activities specifically addressed to Ph.D. students, such as seminars, advanced courses, workshops, visiting professors, students' travels and scholarships. Within this five-year Program of Excellence, five Ph.D. positions have been funded for the A.Y. 2018-2019, 2019-2020 and 2020-2021. The Ph.D. program covers all areas of research in Pure and Applied Mathematics, including for instance Algebraic and Arithmetic Geometry, Number Theory, Complex Analysis and Holomorphic Dynamics, Dynamical Systems, Calculus of Variations and PDE, Operator Algebras and Quantum Field Theory, Nonlinear Analysis, Celestial Mechanics, Statistical Physics, Numerical Analysis, Probability and Mathematical Statistics, Representation Theory and Algebraic Combinatorics. Ph.D. students at Tor Vergata can also benefit from strong interactions with the very lively mathematical community in Rome; there is indeed a mutual cooperation agreement with the Mathematics Ph.D. programs run by the University of Rome I "Sapienza,, and the University of Rome III.

### Master's Degree in Mathematics

*University of Trento*

Trento, Italy

*12th December 2017 – 22nd July 2020*

Curriculum: Advanced Mathematics

Final grade: 110 with honors/110

Number of credits: 120

Thesis title: *Type Decomposition of von Neumann Algebras on Quaternionic Hilbert Spaces*

Supervisor: prof. Valter Moretti

Co-examiner: prof. Riccardo Ghiloni

The curriculum *Advanced Mathematics* for the M.Sc. in Mathematics at the University of Trento is aimed at providing an in-depth knowledge and understanding of several areas of modern Mathematics, and of its relations to other scientific disciplines. The educational syllabus can be almost entirely customised by the student, according to his/her natural inclination and personal interests. Many recent topics in Mathematics are touched upon, from modern Functional Analysis and Differential Geometry to Geometric Measure Theory and Calculus of Variations, with an eye to the possible applications to physical models in Newtonian Physics, Quantum Mechanics, Special and General Relativity, and so on. At the end of this two-years program, the student will have acquired a sound understanding of the abstract mathematical framework underlying many current problems in Physics and Applied Mathematics and a critical scientific sensibility which is truly appreciated not only in the world of academic research, but also in the financial, social and information environments.

### 24 Credits Programme for the Italian Teaching Qualification

*Teaching and Students Services Division (University of Trento)*

Trento, Italy

*20th January 2020 – 24th March 2020*

Number of credits: 24

Exams taken:

1. *Ethnomusicology*
2. *Developmental Psychology*

3. *Social Psychology*
4. *General Pedagogy for Teaching*

### **Summer School in Sustainable Development**

*ASEA-UNINET*

Jakarta, Indonesia

*18th August 2019 – 31st August 2019*

Summer School entitled *Sustainable Development: A Multidisciplinary Approach* for Master's and Ph.D. students.

Hosting university: Universitas Indonesia

Lectures attended:

1. *Climate Change* - Jatna Suprijatna
2. *Sustainable Energy* - Eko Adhi Setiawan
3. *Sustainable Finance and Economics* - Ratna Wardhani
4. *Sustainable Infrastructure Development* - Mohammed Ali Berawi
5. *Human and Organization Resources* - Leni Sagita Riantini
6. *Sustainable Technology* - Yudho Giri Sucahyo
7. *Sustainable Environment* - Nyoman Suwartha
8. *BSD Sinarmasland*
9. *Jakarta Smart City*
10. *Sentul City*

### **Summer School in Mathematics**

*SMI (Scuola Matematica Interuniversitaria)*

Perugia, Italy

*22nd July 2019 – 16th August 2019*

Programme of summer graduate courses organized at the Department of Mathematics and Informatics of the University of Perugia, under the sponsorship of the Consorzio per l'Alta Formazione in Matematica (CIAFM), the Ministry of Education, Universities and Research (MIUR) and Istituto di Alta Matematica (INdAM).

Hosting university: University of Perugia

Courses attended:

1. *Algebraic Geometry* (prof. Chris Peterson and post-doc Michael DiPasquale, Colorado State University)
2. *Numerical Analysis* (prof. Michele Benzi, Scuola Normale Superiore of Pisa)

### **Bachelor's Degree in Mathematics**

*University of Trento*

Trento, Italy

*3rd September 2014 – 25th September 2017*

Final grade: 110 with honors/110

Number of credits: 180

Thesis title: *How to portion a sandwich out without a fight. The winding number and some of its applications*

Supervisor: prof. Roberto Pignatelli

### **Percorso di Eccellenza for the B. Math**

*University of Trento*

Trento, Italy

*6th October 2015 – 22nd September 2017*

The course essentially consists of two parts:

- during the second year, the participating students are asked to attend sixteen frontal lessons concerning in-depth topics in Mathematics, related to the ones faced in the regular courses of the Bachelor's Degree, and to write a report at the end of each semester;
- during the third year, the participating students orally present a topic, previously planned with a professor at will.

## **Emozionare con la Scienza (Moving with Science)**

University of Trento

Trento, Italy

16th March 2016 – 8th June 2016

Workshop in scientific communication of the duration of 20 hours (lecturer: Andrea Brunello, Ph.D., member of the theatre company *Arditodesio*).

## **High School Diploma**

Liceo Statale “Galileo Galilei,,

Verona, Italy

September 2009 – July 2014

Curriculum: *Scientific (P.N.I. programme)*

Final grade: 100/100

Thesis title: *Magnetic recording. History and functioning*

## **Themed week on DNA and Biotechnology**

Gymnasium “Bethel,,

Bielefeld, Germany

17th February 2013 – 23rd February 2013

Programme offered by the Horizon Association, a network of European high schools whose aim is to bring together students and staff to work on topics that rely on deep collaboration and international understanding.

## **WORK EXPERIENCE**

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### **High School Teaching**

Liceo Statale “Galileo Galilei,,

Verona, Italy

19th October 2020 – 31st October 2020

Sub teacher in:

- Physics for two classes of the *Scientific* curriculum (*Applied Sciences* programme, 2nd year), two classes of the curriculum *Foreign Languages* (3rd year) and one class of the *Scientific* curriculum (*Sports* programme, 4th year)
- Mathematics for one class of the *Scientific* curriculum (*Sports* programme, 4th year)

### **Admission Office**

University of Trento

Trento, Italy

1st July 2020 – 31st October 2020

Management of the University enrolment procedure for the Academic Year 2020-2021.

### **Study Advisory**

University of Trento

Trento, Italy

1st January 2019 – 22nd July 2020

University counsellor for High School students at national college fairs (*Young 2019* in Erba, *ExpoScuola 2019* in Padua, *University Fair 2019* at Collegio Vescovile Pio X in Treviso, *Job&Orienta 2019* in Verona, *Levante Fair 2019* in Bari), information desks and face-to-face interviews.

### **Tutoring**

University of Trento

Trento, Italy

13th September 2018 – 19th April 2019

Mathematical calculus tutor for Bachelor’s students in:

- Information Engineering & Computer Science
- Industrial Engineering
- Cognitive Science

Information Point for Bachelor’s and Master’s students in:

- Mathematics
- Physics
- Biomolecular Sciences & Technology

**Front desk**

*Opera Universitaria of Trento*

Trento, Italy

*July 2016 – February 2017*

Receptionist at the Opera Universitaria of Trento, provincial body of the right to academic education.

**Entertainment for children**

*Compagnia dell'Arca*

Verona, Italy

*November 2014 – November 2015*

Entertainment for children and families at the *Fieracavalli* International Horse Exhibition in Verona and at the Italian selection phase of the international children's song festival *Zecchino d'Oro (Golden Sequin)*.

**Entertainment for tourists' children**

*Alpen Hotel Corona*

Vigo di Fassa, Italy

*July 2014 – August 2014*

Animator for kids from three to twelve years old in the team *Big Up Animazione*.

**Private tuition**

*Home*

*2012 – current*

Door-to-door and online private classes in Mathematics and Physics.

**AWARDS AND CERTIFICATES**

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**Open Digital Badge**

*TLL (Tandem Language Learning)*

Trento, Italy

*October 2019 – December 2019*

24 hours of cultural and language exchange with a Sociology student from Helsinki (Finland) on a visit to Trento. By using English as a link language, the partner acquired a basic knowledge of Italian language and culture from my lessons (both oral and written), useful for her stay. In parallel, I had the uncommon chance to teach my mother tongue from scratch and perfect the usage of spoken English.

**IELTS Academic Test**

*British Council*

Verona, Italy

*22nd October 2019*

Test results:

- Listening: 8.0
- Reading: 8.0
- Writing: 7.0
- Speaking: 6.5
- Overall Band Score: 7.5
- CEFR Level: C1

**Merit award**

*University of Trento*

Trento, Italy

*17th September 2019*

Cash prize for the high grade achieved with the Bachelor's Degree in Mathematics.

## OTHER EXPERIENCE

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### **Homework help**

*Compagnia dell'Arca*

Trento, Italy

*November 2014 – May 2015*

Voluntary tutor for Middle School students in search of a personal study method.

### **Students' Representation**

*Liceo Statale "Galileo Galilei,, and University of Trento*

Verona and Trento, Italy

*November 2013 – July 2020*

Students' representative in:

- the Department of Mathematics, University of Trento (2018 – 2020)
- the Joint Committee for the Right to Study and the Valorisation of Merit, University of Trento (2018 – 2020)
- the Provincial Council of the Students, Liceo Statale "Galileo Galilei,, (2013 – 2015)

Member of UDU (Unione degli Universitari) from 2018 to 2020.

### **Interrail Global Pass**

*Interrail*

France, Spain and Portugal

*16th August 2018 – 30th August 2018*

Interrail 2-week-long solo trip.

Destinations: Montpellier (France), València (Spain), Lisbon (Portugal), Salamanca (Spain) and Nice (France).