

Flavio Salizzoni

Curriculum vitae

Office 207, Institut de Mathématiques,
Rue Emile-Argand 11, CH-2000 Neuchâtel
✉ flavio.salizzoni@unine.ch

Education

- 2020–current **Ph.D. in Mathematics**, *Université de Neuchâtel*, Neuchâtel (Switzerland), Expected date: August 2024.
Topic: Coding theory | Advisor: Elisa Gorla (<http://members.unine.ch/elisa.gorla/cv.html>)
- October 2019 **Master in Mathematics**, *Università degli Studi di Udine*, Udine (Italy), Grade 110/110 *cum laude*, GPA 29.571/30.
Thesis: “Algebraic entropy for amenable semigroup actions” | Advisors: Dikran Dikranjan and Anna Giordano Bruno
- 2014–2019 **Student at the Scuola Superiore dell’Università degli Studi di Udine**, Udine (Italy), Grade 110/110 *cum laude*, GPA: 29.75/30.
Higher learning institution structured on the model of French *Grandes écoles*, giving 5-years full scholarships for only 20 students per year, selected through a competitive entrance examination. In addition to their academic course of studies, students have to attend disciplinary and interdisciplinary courses and have to maintain a high GPA. Every year the students have to produce one or two essays under the supervision of a professor and then expose it to a selected committee. An academic tutor supervises the student’s academic path. The scholarship provides free board and lodging in an exclusive residence, giving its students the opportunity to grow in a stimulating and multidisciplinary environment.
- October 2017 **Bachelor Degree in Mathematics**, *Università degli Studi di Udine*, Udine (Italy), Grade 110/110 *cum laude*, GPA: 29.296/30.
Thesis: “La dualità di Pontryagin e la topologia di Bohr ” | Advisor: Dikran Dikranjan
- July 2014 **Classic High school diploma**, *Liceo Classico “Don Nicola Mazza”*, Verona (Italy), Grade 100/100.
National special program with emphasis on classical subjects such as Latin and Greek.
- September 2012 **Samford Valley Steiner School**, 5 Narrawa Drive Wights Mountain, Queensland 4520, Australia, Exchange student.

Publications

- 2023 **Integer sequences that are generalized weights of a linear code**, E. Gorla, E. Lorenzo García, U. Martínez-Peñas and F. Salizzoni, Submitted.
- 2023 **An upper bound for the solving degree in terms of the degree of regularity**, F. Salizzoni, Submitted.
- 2023 **Sum-rank metric codes (Chapter)**, E. Gorla, U. Martínez-Peñas and F. Salizzoni, Submitted.
- 2022 **Generalized column distances of convolutional codes**, E. Gorla, F. Salizzoni, submitted.

- 2022 **MacWilliams' Extension Theorem for rank-metric codes**, *E. Gorla, F. Salizzoni*, submitted.
- 2023 **Generalized weights of convolutional codes**, *E. Gorla, F. Salizzoni*, IEEE Transactions on Information Theory, to appear.
- 2023 **The addition theorem for locally monotileable monoid actions**, *D. Dikranjan, A. Fornasiero, A. Giordano Bruno, F. Salizzoni*, Journal of Pure and Applied Algebra, vol. 227, no. 1 (2023) 107113, <https://doi.org/10.1016/j.jpaa.2022.107113>.
- 2022 **Optimal anticodes, MSRD codes, and generalized weights in the sum-rank metric**, *E. Camps Moreno, E. Gorla, C. Landolina, E. Lorenzo García, U. Martínez-Peñas, F. Salizzoni*, IEEE Transactions on Information Theory, vol. 68, no. 6 (2022) 3806-3822, doi: 10.1109/TIT.2022.3156206.
- 2020 **Additivity of the algebraic entropy for locally finite groups with permutable finite subgroups**, *A. Giordano Bruno, F. Salizzoni*, Journal of Group Theory, vol. 23, no. 5 (2020) 831-846, <https://doi.org/10.1515/jgth-2019-0096>.

Talks

- 14 July 2023 SIAM AG23, *Which numerical sequence are the sequence of generalized Hamming weights of a code?*, Eindhoven
- 07 July 2023 29th Nordic Congress of Mathematicians with EMS, *Generalized column weights*, Aalborg
- 08 June 2023 Workshop on Convolutional Codes, *Generalized column weights*, Zürich
- 21 April 2023 Workshop on Combinatorics in Digital Communication, *Results on the MacWilliams' Extension Theorem for rank-metric codes*, Eindhoven
- 22 November 2022 Math Mini Talks, *Ultrafilters and their application to combinatorics*, Neuchâtel
- 5 October 2022 Applied Algebra Research Group Seminar (Virginia Tech), *Generalized weights of convolutional codes*, on-line
- 20 June 2022 MEGA 2022, *MacWilliams' Extension Theorem for rank-metric codes*, Krakow
- 24 May 2022 Math Mini Talks, *Entropy on abelian groups*, Neuchâtel
- 19 May 2022 Arbeitsgemeinschaft in Codierungstheorie und Kryptographie, *Generalized weights of convolutional codes*, Neuchâtel
- 11 April 2022 Bernoullis Tafelrunde, *MacWilliams' Extension Theorem for rank-metric codes*, Basel
- 26 November 2021 21th Graduate Colloquium CUSO, *Sum-rank metric codes*, Neuchâtel
- 15 July 2021 Postgraduate International Coding theory Seminar, *Optimal anticodes in the sum-rank metric*, on-line

Teaching experience

- Autumn 2023 Teaching assistant (Théorie analytique des nombres, Seminaire de recherches)

- Spring 2023 Teaching assistant(Introduction aux probabilités, Geometric group theory, Geometric combinatorics, Seminaire sur l'actualité des mathématiques)
- Spring 2022 Teaching assistant(Introduction aux probabilités, Calcul différentiel et intégral à plusieurs variables)
- Autumn 2021 Teaching assistant(Invariant theory)
- Spring 2021 Teaching assistant (Coxeter groups and hyperbolic spaces, Introduction to quantum mechanics, Seminaire sur l'actualité des mathématiques)

Other experience

- Summer 2020 Product Analyst at Bending Spoons (<https://bendingspoons.com/>).
- 2018–2019 Students' tutor for the Department of Mathematics, Computer Science and Physics of the University of Udine
- 2015–2017 Students' representative in the board of the Department of Mathematics, Computer Science and Physics of the University of Udine