

ALESSANDRO NERI

alessandro.neri@ugent.be

Ghent University \diamond Department of mathematics: analysis, logic and discrete mathematics

Krijgslaan 281, building S8, office 130.015 \diamond 9000 Ghent, Belgium

PERSONAL INFORMATION

Birthplace Campobasso, Italy

Citizenship Italian

Homepage 1 <http://user.math.uzh.ch/neri/>

Homepage 2 <https://users.ugent.be/ aneri/>

ORCID 0000-0002-2020-1040

Scopus ID 57193849803

Web of Science Researcher ID AAX-4620-2021

Google Scholar ID <https://scholar.google.com/citations?user=d2osIFUAAAAJ&hl=en>

ArXiv ID <https://arxiv.org/a/0000-0002-2020-1040>

RESEARCH INTERESTS

Algebraic coding theory, Finite geometry, Combinatorics, Finite fields theory, Computational algebra, Commutative algebra, Cryptography.

EDUCATION

Ph.D. degree in Mathematics 2015–2019

University of Zurich, Switzerland

Dissertation title: “*Algebraic Theory of Rank-Metric Codes: Representations, Invariants and Density Results*”

Advisor: Prof. Joachim Rosenthal.

Master degree in Mathematics 2010–2014

Università di Pisa, Italy

Grade: 110/110 cum Laude

Thesis title: “*Decoding Reed Solomon and BCH codes beyond their error-correcting radius: an euclidean approach*”

Advisor: Prof. Patrizia Gianni

Bachelor degree in Mathematics 2007–2010

Università di Pisa, Italy

Grade: 110/110 cum Laude

Thesis title: “*Un algoritmo polinomiale sulla risolubilità per radicali*”

Advisor: Prof. Patrizia Gianni

POSITIONS HELD

Postdoctoral Researcher

Ghent University, Belgium

Oct 2022–current

Postdoctoral Researcher Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany	Apr 2021–Sep 2022
Postdoctoral Researcher Technical University of Munich, Germany	Jan 2020–Mar 2021
Postdoctoral Researcher Inria Saclay/École Polytechnique, France	Sep–Dec 2019
Ph.D Mobility Visiting University College Dublin, Ireland	Mar–Sep 2018
Teaching Assistant/Ph.D. student University of Zurich, Switzerland	2015–2019
Research Stage University of Rennes 1, France. <i>Funded by Centre de Mathematiques Henri Lebesgue</i>	Apr–Jul 2015

PRIZES, AWARDS, FELLOWSHIPS

FWO Junior Postdoctoral Fellowship Funded by Research Foundation - Flanders (FWO)	Oct 2022 – Sep 2025 amount: 200000 EUR
Research in Pairs Program: ID 2145q MFO, Oberwolfach Research Institute for Mathematics	Nov 6 – 20, 2021
Early Postdoc.Mobility Fellowship Funded by Swiss National Science Foundation Grant number 187711.	Sep 2019 – Feb 2021 amount: 72267 CHF
Oberwolfach Leibniz Graduate Student (OWLG) Grant to participate to the <i>Oberwolfach Workshop 1912, “Contemporary Coding Theory”</i>	Mar 2019 amount: 200 EUR
Ph.D Mobility Fellowship Financial support from the Swiss National Science Foundation for 6-months scientific visit University College Dublin, Ireland.	Mar – Sep 2018 amount: 10800 CHF
Short Term Scientific Mission Grant Grant from COST action IC1104 for 1-month scientific visit University College Dublin, Ireland.	Jan – Feb 2016 amount: 1800 EUR
INdAM Excellence Scholarship for Master’s Degree in Mathematics Funded by INdAM (Italian National Institute of High Mathematics). National written competition: ranked 4th in Italy.	Sep 2010 – Aug 2012 amount: 3000 EUR
INdAM Excellence Scholarship for Bachelor’s Degree in Mathematics Funded by INdAM (Italian National Institute of High Mathematics). National written competition: ranked 59th in Italy.	Sep 2007 – Aug 2010 amount: 12000 EUR

OTHER AWARDS AND TITLES

Qualification as Associate Professor Italian qualification as associate professor in the area “Geometry and Algebra”.	Jun 2022 – Jun 2032
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Travel Grant May-June 2022
Financial support for “Combinatorics 2022” from the local committee, in Mantova, Italy.

Schloss Dagstuhl - Leibniz Center for Informatics December 2018
Invitation to participate to the seminar “Algebraic Coding Theory for Networks, Storage, and Security” (18511), Germany.

Travel Grant July 2018
Full financial support for the “Latin American Week on Coding and Information” from the local committee, in Campinas, Brazil.

Travel Grant June 2018
Full financial support for “Combinatorics 2018” from the local committee and Elsevier, in Arco, Italy.

Schloss Dagstuhl - Leibniz Center for Informatics August 2016
Invitation to participate to the conference “Network Coding in the Time of Big Data” (16321), Germany.

Travel Grant June 2015
Full financial support from COST Action IC1104 for the “7th Workshop on Coding and Systems” in Salamanca.

Travel Grant June 2015
Full financial support for the conference “MEGA 2015” from the local committee in Trento.

Honorable Mention January–June 2014
Attendance at “2014 AIMMS-MOPTA Optimization Modeling Competition” on “Time-Ahead Pricing of Energy Supply”, honorable mention received.

Honorable Mention May 2006
Attendance at the “Italian Mathematical Olympiad”, honorable mention received.

PUBLICATIONS IN PEER-REVIEWED JOURNALS

26. **A. Neri**, P. Santonastaso, and F. Zullo. The geometry of one-weight codes in the sum-rank metric. *Journal of Combinatorial Theory Series A*, 194: 105703, **2023**.
DOI: 10.1016/j.jcta.2022.105703
arXiv version, <https://arxiv.org/abs/2112.04989>
25. G. N. Alfarano, D. Napp, **A. Neri**, and V. Requena. Weighted Reed-Solomon convolutional codes. *Linear and Multilinear Algebra*, **2023**.
DOI: 10.1080/03081087.2023.2169232
arXiv version, <https://arxiv.org/abs/2012.11417>
24. **A. Neri**. Twisted Linearized Reed-Solomon Codes: A Skew Polynomial Framework. *Journal of Algebra*, 609: 792–839, **2022**.
DOI: 10.1016/j.jalgebra.2022.06.027
arXiv version, <https://arxiv.org/abs/2105.10451>
23. D. Bartoli, G. Marino, and **A. Neri**. New MRD codes from linear cutting blocking sets. *Annali di Matematica Pura ed Applicata*, **2022**.

DOI: 10.1007/s10231-022-01235-5

22. J. Bariffi, S. Mattheus, **A. Neri**, and J. Rosenthal. Moderate-Density Parity-Check Codes from Projective Bundles. *Designs, Codes and Cryptography*, 90(12): 2943–2966 **2022**.
DOI: 10.1007/s10623-022-01054-y
arXiv version, <https://arxiv.org/abs/2103.09722>
21. **A. Neri**, P. Santonastaso, and F. Zullo. Extending two families of maximum rank distance codes. *Finite Fields and Their Applications*, 81: 102045, **2022**.
DOI: 10.1016/j.ffa.2022.102045
arXiv version, <https://arxiv.org/abs/2104.07602>
20. G. N. Alfarano, M. Borello, **A. Neri**, and A. Ravagnani. Linear Cutting Blocking Sets and Minimal Codes in the Rank Metric. *Journal of Combinatorial Theory Series A*, 192: 105658, **2022**.
DOI: 10.1016/j.jcta.2022.105658
arXiv version, <https://arxiv.org/abs/2106.12465>
19. G. N. Alfarano, F.J. Lobillo, **A. Neri**, A. Wachter-Zeh. Sum-rank product codes and bounds on the minimum distance. *Finite Fields and Their Applications*, 80: 102013, **2022**.
DOI: 10.1016/j.ffa.2022.102013
18. G. N. Alfarano, M. Borello, **A. Neri**, and A. Ravagnani. Three Combinatorial Perspectives on Minimal Codes. *SIAM Journal on Discrete Mathematics (SIDMA)*, 36(1): 461–489, **2022**.
DOI: 10.1137/21M1391493
17. T. Bogart, A.-L. Horlemann-Trautmann, D. Karpuk, **A. Neri**, and M. Velasco. Constructing Partial MDS Codes from Reducible Algebraic Curves. *SIAM Journal on Discrete Mathematics (SIDMA)*, 35(4): 2946–2970, **2021**.
DOI: 10.1137/20M1356658
16. L. Holzbaur, H. Liu, **A. Neri**, S. Puchinger, J. Rosenkilde, V. Sidorenko, A. Wachter-Zeh. Decoding of Interleaved Alternant Codes. *IEEE Transactions on Information Theory*, 67(12): 8016–8033, **2021**.
DOI: 10.1109/TIT.2021.3115432
15. D. Augot, A. Couvreur, J. Lavauzelle, and **A. Neri**. Rank-metric codes over arbitrary Galois extensions and rank analogues of Reed-Muller codes. *SIAM Journal on Applied Algebra and Geometry (SIAGA)*, 5(2): 165–199, **2021**.
DOI: 10.1137/20M1348583
14. J. Renner, **A. Neri**, S. Puchinger. Low-Rank Parity-Check Codes over Galois Rings. *Designs, Codes and Cryptography*, 89(2): 351–386, **2021**.
DOI: 10.1007/s10623-020-00825-9
13. G. N. Alfarano, F.J. Lobillo, and **A. Neri**. Roos bound for skew cyclic codes in Hamming and rank metric. *Finite Fields and Their Applications*, 69: 101772, **2021**.
DOI: 10.1016/j.ffa.2020.101772
12. G. N. Alfarano, M. Borello, and **A. Neri**. A geometric characterization of minimal codes and their asymptotic performance. *Advances in Mathematics of Communications*, 16(1): 115–133, **2022**.
DOI: 10.3934/amc.2020104
11. **A. Neri**, S. Puchinger, and A.-L. Horlemann-Trautmann. Equivalence and characterizations of linear rank-metric codes based on invariants. *Linear Algebra and its Applications*, 603: 418–469, **2020**.
DOI: 10.1016/j.laa.2020.06.014

10. M. Shi, **A. Neri**, and P. Solé. How many weights can a quasi-cyclic code have? *IEEE Transactions on Information Theory*, 66(11): 6855–6862, **2020**.
DOI: 10.1109/TIT.2020.3001591
9. **A. Neri**. Systematic encoders for generalized Gabidulin codes and the q -analogue of Cauchy matrices. *Linear Algebra and its Applications*, 593: 116–149, **2020**.
DOI: 10.1016/j.laa.2020.02.002
8. **A. Neri**, and A.-L. Horlemann-Trautmann. Random construction of partial MDS codes. *Designs, Codes and Cryptography*, 88: 711–725, **2020**.
DOI: 10.1007/s10623-019-00705-x
7. G. Micheli, and **A. Neri**. New Lower Bounds for Permutation Codes using Linear Block Codes. *IEEE Transactions on Information Theory*, 66(7): 4019–4025, **2020**.
DOI: 10.1109/TIT.2019.2957354
6. E. Byrne, **A. Neri**, A. Ravagnani, and J. Sheekey. Tensor Representation of Rank-Metric Codes. *SIAM Journal on Applied Algebra and Geometry (SIAGA)*, 3(4): 614–643, **2019**.
DOI: 10.1137/19M1253964
5. M. Shi, X. Li, **A. Neri**, and P. Solé. How many weights can a cyclic code have? *IEEE Transactions on Information Theory*, 66(3): 1449–1459, **2020**.
DOI: 10.1109/TIT.2019.2946660
4. A.-L. Horlemann-Trautmann, and **A. Neri**. A complete classification of partial-MDS (maximally recoverable) codes with one global parity. *Advances in Mathematics of Communications*, 14(1): 69–88, **2020**.
DOI: 10.3934/amc.2020006
3. T. L. Alderson, and **A. Neri**. Maximum weight spectrum codes. *Advances in Mathematics of Communications*, 13(1):101–119, **2019**.
DOI: 10.3934/amc.2019006
2. **A. Neri**, A.-L. Horlemann-Trautmann, T. Randrianarisoa, and J. Rosenthal. On the genericity of maximum rank distance and Gabidulin codes. *Designs, Codes and Cryptography*, 86(2): 341–363, **2018**.
DOI: 10.1007/s10623-017-0354-4
1. J. Gómez-Torrecillas, F.J. Lobillo, G. Navarro, and **A. Neri**. Hartmann-Tzeng bound and skew cyclic codes of designed Hamming distance. *Finite Fields and Their Applications*, 50: 84–112, **2018**.
DOI: 10.1016/j.ffa.2017.11.001

REFEREED CONFERENCE PROCEEDINGS

2. L. Holzbaur, H. Liu, **A. Neri**, S. Puchinger, J. Rosenkilde, V. Sidorenko, and A. Wachter-Zeh. Success Probability of Decoding Interleaved Alternant Codes. *IEEE Information Theory Workshop*, **2021**.
DOI: 10.1109/ITW46852.2021.9457607
1. **A. Neri**, S. Puchinger, and A.-L. Horlemann-Trautmann. Invariants and Inequivalence of Linear Rank-Metric Codes. *2019 IEEE International Symposium on Information Theory (ISIT)*, 2049–2053, **2019**.
DOI: 10.1109/ISIT.2019.8849525

BOOK CHAPTERS

2. **A. Neri**. Identifying rank-metric codes using Galois group action. *In the Oberwolfach Report of the conference “Contemporary Coding Theory” (ID 1912)*, pp. 828–830, **2019**
DOI: 10.4171/OWR/2019/13
1. **A. Neri**, J. Rosenthal, and D. Schipani. Fuzzy Authentication using Rank Distance. *In International Workshop on Communication Security, Lecture Notes in Electrical Engineering, Springer*, 97–108, **2017**.
DOI: 10.1007/978-3-319-59265-7_7

PREPRINTS

7. N. Alon, A. Bishnoi, S. Das, and **A. Neri**. Strong blocking sets and minimal codes from expander graphs. *preprint*, **2023**.
6. G. N. Alfarano, **A. Neri**, and F. Zullo. Maximum Flag-Rank Distance Codes. *submitted*, **2023**.
arXiv version, <https://arxiv.org/abs/2303.16653>
5. A. Bik and **A. Neri**. Higher-degree symmetric rank-metric codes. *submitted*, **2023**.
arXiv version, <https://arxiv.org/abs/2303.06745>
4. G. N. Alfarano, M. Borello, and **A. Neri**. Outer Strong blocking sets. *submitted*, **2023**.
arXiv version, <https://arxiv.org/abs/2301.09590>
3. D. Bartoli, G. Marino, **A. Neri**, and L. Vicino. Exceptional scattered sequences. *submitted*. **2022**.
arXiv version, <https://arxiv.org/abs/2211.11477>
2. G. Marino, **A. Neri**, and R. Trombetti. Evasive subspaces, generalized rank weights and near MRD codes. *submitted*. **2022**.
arXiv version, <https://arxiv.org/abs/2204.11791>
1. Y. El Maazouz, M. A. Hahn, **A. Neri**, and M. Stanojkovski. Valued rank-metric codes. *submitted*. **2021**.
arXiv version, <https://arxiv.org/abs/2104.03216>

MONOGRAPHS

3. **A. Neri**. Algebraic Theory of Rank-Metric Codes: Representations, Invariants and Density Results. Ph.D. thesis, University of Zurich, Switzerland, **2019**.
2. **A. Neri**. Decoding Reed Solomon and BCH codes beyond their error-correction radius: an euclidean approach. M.Sc. thesis, University of Pisa, Italy, **2014**.
1. **A. Neri**. Un algoritmo polinomiale sulla risolubilità per radicali. B.Sc. thesis, University of Pisa, Italy, **2010**.

INVITED TALKS

26. **Rank-Metric Codes: Theory and Applications** Mar 2023
Math Bites Seminars, University of Trento, Italy
25. **Asymptotically good minimal linear codes from Ramanujan graphs** Dec 2022
Arbeitsgemeinschaft in Codierungstheorie und Kryptographie, University of Zurich, Switzerland
24. **Explicit constructions of asymptotically good minimal linear codes from Ramanujan graphs** Dec 2022
Séminaire Mathématiques Discrètes, Codes et Cryptographie, Université Paris 8, France

23. **One-weight codes in various metrics** Sep 2022
Colloquium on Combinatorial Designs, online.
22. **A Geometric Characterization of Near MRD Codes** Aug 2022
ACA 2022 – Applications of Computer Algebra – q -Analogues in Combinatorics: Matroids, Designs and Codes, Istanbul-Gebze, Turkey
21. **Geometric approaches to linear codes** Apr 2022
“Algebraic Methods in Coding Theory and Communication” – Casa Matemática Oaxaca (CMO), Mexico
20. **The Geometry of One-Weight Codes** Mar 2022
Sabancı Algebra Seminar, Turkey
19. **Matrici Parziali e Polinomi non Commutativi nella Teoria dei Codici** Oct 2021
Seminari UMI Crittografia e Codici – De Cifris, Italy
18. **Matrix Algebras, Skew Polynomials and Sum-Rank-Metric Codes** Sep 2021
Séminaire Mathématiques Discrètes, Codes et Cryptographie, Université Paris 8, France
17. **Reed–Muller Codes in the Rank Metric** Aug 2021
SIAM Conference on Applied Algebraic Geometry - Network Coding and Subspace Designs, Austin, Texas, US
16. **Multivariate Polynomials over Finite Grids and their Applications to Algebraic Coding Theory** Feb 2021
Skoltech Coding Theory eSeminar, Moscow, Russia
15. **Spaces of matrices with high rank using Galois theory** Sep 2020
Algebra eSeminar, University of Kentucky, Lexington, USA
14. **Linear algebra and Galois theory: Alon–Füredi theorem for endomorphisms** Sep 2020
Seminar on Nonlinear Algebra, Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany
13. **Defining Reed–Muller codes in the rank metric: the Alon–Füredi theorem for endomorphisms** Jul 2020
eSeminar on Galois Geometries and their Applications, Università degli Studi della Campania “Luigi Vanvitelli”, Italy
12. **3-Tensors: a natural way of representing rank-metric codes** Dec 2019
Inria Saclay Île-de-France, France
11. **Matrices, Tensors and Rank-Metric Codes** Nov 2019
Séminaire Mathématiques Discrètes, Codes et Cryptographie, Université Paris 8, France
10. **Rank-metric codes and 3-tensors** Jul 2019
Technische Universität München, Germany
9. **Invariants of rank-metric codes via Galois group action** Jul 2019
SIAM Conference on Applied Algebraic Geometry - Network Coding and Subspace Designs, Bern, Switzerland
8. **Representations of Rank-Metric and Gabidulin Codes** Jun 2019
Universidad de Alicante, Spain
7. **Identifying rank-metric codes using Galois group action** Mar 2019
Contemporary Coding Theory, Oberwolfach Workshop 1912, Germany

6. **Parametrizing Systematic Gabidulin Codes and Applications** Dec 2018
Algebraic Coding Theory for Networks, Storage, and Security, Dagstuhl Seminar 18511, Germany
5. **Encoding Schemes for Gabidulin Codes with Applications** Nov 2018
Technische Universität München, Germany
4. **Properties of Rank Metric Codes and Analogies with the Hamming Metric** Oct 2018
ANT Seminar, University College Dublin, Ireland
3. **The Systematic Encoder for Generalized Gabidulin Codes** Jun 2018
Seminari UniTN, Università di Trento, Italy
2. **Analogies between Rank-Metric & Hamming Codes: Old and New Results** Apr 2018
Séminaire Protection de l'Information, Université Paris 8, France
1. **On the Genericity of Maximum Rank Distance and Gabidulin Codes** Nov 2016
ANTA seminar, Aalto University, Finland

OTHER TALKS

19. **Higher degree symmetric rank-metric codes** Feb 2023
Alcocrypt, CIRM Luminy, France
18. **Small strong blocking sets via Ramanujan graphs** Jan 2023
Dutch-Belgian Discrete Math Seminar, Ghent University, Belgium
17. **Asymptotically good strong blocking sets** Aug 2022
Irsee – Finite Geometries 2022, Germany
16. **Strong Blocking Sets and Minimal Codes from Graphs** Jun 2022
Combinatorics 2022, Mantova, Italy
15. **Matrices with Restricted Entries, Skew Polynomials and Coding Theory** Jun 2021
Seminar on Nonlinear Algebra, Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany
14. **Algebraic Theory of Rank-Metric Codes: Representations, Invariants and Density Results** Jul 2019
PhD defense, University of Zurich, Switzerland
13. **On the q -analogue of Cauchy matrices** Jun 2019
Summer school: “Finite Geometry & Friends”, Vrije Universiteit Brussels, Belgium
12. **What is... the MDS conjecture?** May 2019
Zurich Graduate Colloquium, University of Zurich, Switzerland
11. **On the Cauchy-like Structure of Generator Matrices for Gabidulin codes** Jan 2019
The Second Colombian Workshop on Coding Theory, Barranquilla, Colombia
10. **Rank Metric vs. Hamming Metric: Evaluation Codes and their Encoders** Aug 2018
CIMPA Research School and Workshop: “Quasi-Cyclic and Related Algebraic Codes”, METU, Ankara, Turkey
9. **Generalized Gabidulin Codes and their Generator Matrices** Jul 2018
Latin American Week on Coding and Information (poster), Unicamp, Campinas, Brazil
8. **Maximum Weight Spectrum Codes** Jun 2018
Combinatorics 2018, Arco, Italy

7. **The Generator Matrix in Standard Form of Gabidulin Codes** Apr 2018
Munich Workshop on Coding and Cryptography 2018 (poster), Technische Universität München, Germany
6. **MRD codes: further properties and standard form of Gabidulin codes** Nov 2017
Arbeitsgemeinschaft in Codierungstheorie und Kryptographie, University of Neuchatel, Switzerland
5. **On linear Generalized Twisted Gabidulin codes and the existence of new MRD codes** Jun 2017
The 13th International Conference on Finite Fields and their Applications, Gaeta, Italy
4. **Fuzzy Authentication using Rank Distance** Apr 2017
Workshop on Communication Security, ParisFrance
3. **On the Genericity of Maximum Rank Distance and Gabidulin Codes** Sep 2016
Arbeitsgemeinschaft in Codierungstheorie und Kryptographie, University of Neuchatel, Switzerland
2. **On Codes over Skew Polynomial Rings** Nov 2015
Arbeitsgemeinschaft in Codierungstheorie und Kryptographie, University of Zurich, Switzerland
1. **A new approach for List Decoding of BCH and Reed-Solomon Codes** Jul 2015
7th Workshop on Coding and Systems, University of Salamanca, Spain

RESEARCH VISITS

Univeristy of Trento, Italy	Mar 2023
Univeristy of Zurich, Switzerland	Dec 2022
Univeristy of Paris 8, France	Nov–Dec 2022
Univeristy of Napoli Federico II, Italy	May 2022
Univeristy of Napoli Federico II, Italy	Jan 2022
Univeristy of Zurich, Switzerland	Nov 2021
Univeristy of Paris 8, France	Sep 2021
Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany	Sep 2020
Technical University of Munich, Germany	Jul 2019
University of Alicante, Spain	May–Jun 2019
Universidad de los Andes, Colombia	Jan 2019
Technical University of Munich, Germany	Nov 2018
University College Dublin, Ireland	Mar–Sep 2018
Univeristy of Paris 8, France	Apr 2018

University of Granada, Spain	Nov 2016
Aalto University, Finland	Nov 2016
University College Dublin, Ireland	Jan–Feb 2016

TEACHING ACTIVITY

Lecturer and Organizer

Duties: frontal lectures, preparation of material, final examiner.

- “Algebra and Geometry of Rank-Metric Codes” Jan 2022
University of Napoli “Federico II”, Italy
- “Coding Theory for Storage and Networks” Apr – Aug 2020
Technical University of Munich, Germany
- “MAT567 Seminar on Finite Fields and their Applications” Feb – Jun 2019
University of Zurich, Switzerland

Teaching Assistant

Duties: frontal lectures, exercise classes, preparation and correction of exams and homeworks.

- “Codeertheorie” (Fall 2022).
Ghent University, Belgium Sep – Dec 2022
- “Algebra” (Fall 2018); “Kryptographie” (Fall 2017); “Codierungstheorie” (Spring 2017);
“Lineare Algebra I” (Fall 2016); “Lineare Algebra II” (Spring 2016);
“Lineare Algebra für die Naturwissenschaften” (Fall 2015).
University of Zurich, Switzerland Sep 2015 – Aug 2018
- “Geometria analitica e algebra lineare”; “Geometria 2”; “Analisi Matematica 1”;
“Analisi in più Variabili 1”.
University of Pisa, Italy Sep 2012 – Aug 2014

MENTORING EXPERIENCE

Master student co-supervised: J. Bariffi Jun 2019 – Mar 2020
University of Zurich, Switzerland
jointly with J. Rosenthal
Thesis title: “A Finite Geometry Construction of MDPC Codes”
Link: <https://www.math.uzh.ch/index.php?id=pmastertheses&key1=604>

Master student co-supervised: S. De Salvo Apr–Sep 2017
University of Pisa, Italy
jointly with I. Del Corso and J. Rosenthal
Thesis title: “Twisted Gabidulin codes and new Maximum Rank Distance codes”
Link: <https://etd.adm.unipi.it/theses/available/etd-09052017-191245/>

MEMBERSHIPS IN BOARDS AND INDIVIDUAL REVIEWING ACTIVITIES

Evaluator for PhD dissertations:

- Lins Denaux, Ghent University, Belgium Jun 2023
- Miguel Ángel Navarro-Pérez, University of Alicante, Spain Nov 2021

Reviewer for the following scientific journals: Sep 2015 – current
“Advances in Mathematics of Communication”, “IEEE Transactions on Information Theory”, “Journal of Combinatorial Theory Series A”, “Linear Algebra and its Applications”, “Finite Fields and their Applications”, “Designs Codes and Cryptography”, “Discrete Mathematics”, “Journal of Algebra and its Applications”, “SIAM Journal on Applied Algebra and Geometry (SIAGA)”, “Cryptography and Communications”, “Glasgow Mathematical Journal”

Reviewer for the following conferences: Sep 2019 – current
“ISIT2022 - 2022 IEEE International Symposium on Information Theory”,
“WCC2022 - 12th International Workshop on Coding and Cryptography”, “Redundancy 2021”,
“ITW2019 - 2019 IEEE Information Theory Workshop”, “WCC2019 - 11th International Workshop on Coding and Cryptography”, “ISIT2019 - 2019 IEEE International Symposium on Information Theory”

MEMBERSHIPS

Member of the INdAM group GNSAGA – Strutture algebriche e geometria combinatoria 2022 –
Member of the Society for Industrial and Applied Mathematics (SIAM) Jul 2021 – current
Member of the Institute of Combinatorics and its Applications (ICA) Jan 2020 – current

ORGANIZATION OF CONFERENCES AND SEMINARS

Organizer of the Session “Network Coding”
for the conference “25th International Symposium on Mathematical Theory of Networks and Systems
MTNS 2022” Sep 12 – 16, 2022
Bayreuth, Germany
Link: <https://www.mtns2022.uni-bayreuth.de/en/index.html>

Organizer of the Session “Algebraic and Geometric Methods in Coding Theory”
for the conference “ACA 2022 - Applications of Computer Algebra” Aug 15 – 19, 2022
Istanbul-Gebze, Turkey
Link: <https://sites.google.com/view/aca22-agmct/>

Organizer of the “Seminar on Nonlinear Algebra” Mar – Jun 2022
Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany

Organizer of “ACT 22: Algebraic Coding Theory Summer School” Jul 4 – 8, 2022
University of Zurich, Switzerland
Link: <https://www.math.uzh.ch/act/>

Organizer of “ACT 21: Algebraic Coding Theory e-Summer School” Jun 7 – 11, 2021
University of Zurich, Switzerland
Link: https://www.math.uzh.ch/act/index_old.html

PROGRAMMING

C++

Magma

SageMath

LANGUAGES

Italian (Mothertongue)

English (Fluent)

Spanish (Basic)