



Curriculum vitae

PERSONAL INFORMATION Paola Bonacini

 Dipartimento di Matematica e Informatica, Università degli Studi di Catania,
Viale A. Doria 6, 95125, Catania, Italy

 +39 095 7383006

 bonacini@dmi.unict.it

 <http://www.dmi.unict.it/bonacini/>

Nationality Italian

Working experience

- From June 2021 Associate Professor in Geometry at the Mathematics and Computer Science Department of the University of Catania.
- June 2018-May 2021 Finite term researcher in Geometry at the Mathematics and Computer Science Department of the University of Catania.
- February 2013 - February 2018 Finite term researcher in Geometry at the Mathematics and Computer Science Department of the University of Catania.
- May 2008 - April 2012 Postdoctoral research fellow at the University of Catania in Geometry with the research project “Lifting problems of codimension 2 varieties in positive characteristic”.

Education

- February 2007 Ph.D. in Mathematics at the University of Catania.
Thesis title: “Zero-dimensional schemes and plane sections of space curves”
Advisor: Prof. Rosario Strano.
- December 2001 Degree in Mathematics (cum laude) at the University of Catania.

Recent didactic activity

- 2022/23 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering, Electronic Engineering and Industrial Engineering at the University of Catania
- 2021/22 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering, Electronic Engineering and Industrial Engineering at the University of Catania
- 2020/21 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering and Electronic Engineering at the University of Catania and course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Science at the University of Catania
- 2019/20 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering and Electronic Engineering at the University of Catania
- 2018/19 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering and Electronic Engineering at the University of Catania
- 2017/18 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering and Electronic Engineering at the University of Catania
- 2016/17 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering and Electronic Engineering at the University of Catania
- 2016/17 Preparatory course of “Mathematics” for students of the Bachelor’s Degree in Computer Engineering and Electronic Engineering at the University of Catania

- 2015/16 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering and Electronic Engineering at the University of Catania
- 2014/15 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering and Electronic Engineering at the University of Catania
- 2014/15 Exercises for the course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering and Industrial Engineering at the University of Catania
- 2013/14 Course of “Linear Algebra and Geometry” for students of the Bachelor’s Degree in Computer Engineering and Electronic Engineering at the University of Catania

Research Interests

My current research fields are graph theory and designs theory. My research is focusing on existence and balancing problems for G-designs and on blocking sets.

Recent Scientific Publications

- 2022 “Edge balanced star-hypergraph designs and vertex colorings of path designs”, in collaboration with Lucia Marino, *J. Combin. Des.*, 30 (7), 2022, 497–514.
- 2022 “On uniformly resolvable $(C_4, K_{1,3})$ -designs”, in collaboration with Selda Küçükçifçi, Salvatore Milici and E. Şule Yazıcı, to appear in *Contribution to Discrete Mathematics*.
- 2020 “On Voloshin colorings in 3-hypergraph designs”, in collaboration with Lucia Marino, *Discrete Mathematics*, Volume 343, Issue 10, October 2020, 112030.
- 2020 “Edge balanced 3-uniform hypergraph designs”, in collaboration with Mario Gionfriddo and Lucia Marino, *Mathematics* 2020, 8, 1353
- 2020 “Blocking sets for cycles and paths designs”, in collaboration with Lucia Marino, *Appl. Anal. Discrete Math*, 14 (2020), 183–197.
- 2018 “Perfect blocking sets in P_3 -designs”, in collaboration with Mario Gionfriddo and Lucia Marino, *The Art of Discrete and Applied Mathematics*, 1 (2018), #P2.08.
- 2017 “The spectrum of balanced $P^3(1, 5)$ -designs”, in collaboration with Maria Di Giovanni, Mario Gionfriddo, Lucia Marino and Antoinette Tripodi, *Contributions to Discrete Mathematics*, 12 (1), 2017, 133–142.
- 2017 “On the spectrum of Octagon Quadrangle Systems of any index”, in collaboration with Lucia Marino, *Contributions to Discrete Mathematics*, 12 (1), 2017, 74–82.
- 2017 “Equitable block colorings for 8-cycle systems”, in collaboration with Lucia Marino, *Australasian Journal of Combinatorics*, 69 (2), 2017, 184–196.
- 2017 “Block colourings of 6-cycle systems”, in collaboration with Mario Gionfriddo and Lucia Marino, *Opuscula Math.* 37, no. 5 (2017), 647–664.
- 2016 “Nonagon quadruple systems: existence, balance, embeddings”, in collaboration with Mario Gionfriddo and Lucia Marino, *The Australasian Journal of Combinatorics*, 66 (2016), no. 3, 393–406.
- 2016 “Nestings House-designs”, in collaboration with Mario Gionfriddo and Lucia Marino, *Discrete Mathematics*, 339 (2016), no. 4, 1291–1299.
- 2015 “Balanced House systems and Nestings”, in collaboration with Mario Gionfriddo and Lucia Marino, *Ars Combinatoria*, 121 (2015), 429–436.

Books

- 2012 P. Bonacini, M. G. Cinquegrani, L. Marino, “Algebra lineare: esercizi svolti”, Cavalotto Edizioni, Catania, 2012.

- 2012 P. Bonacini, M. G. Cinquegrani, L. Marino, “Geometria analitica: esercizi svolti”, Cavallotto edizioni, Catania, 2012.

Recent talks and seminars

- November 2022 Online talk online, on invitation, entitled “Vertex colourings of path designs and edge balanced star-hypergraph designs” at the workshop “One Day on Algebraic Geometry, Graphs Algebra and Combinatorics” held online il 25 Novembre 2022 and organized by the University Jaume I (Spain), University of Michoacan (Messico), University Politecnica of Valencia (Spagna), National Autonomous University of Mexico and University of Messina.
- June 2022 Talk entitled “Edge balanced star-hypergraph designs and vertex colorings of path designs” at the workshop “Combinatorics 2022” held in Mantova from 29th May to 3rd June 2022.
- September 2021 Talk online entitled “Edge balanced star-hypergraph designs and vertex colorings of path designs” at the workshop “29th Workshop on Cycles and Colourings” held in Košice (Slovacchia) from 6th to 9th September 2021.
- September 2018 Talk, on invitation, entitled “Blocking sets in paths and cycles designs” at the workshop “Istanbul Design Theory Workshop” held in Istanbul, Turkey, at the Koç University for Curt Lindner 80th birthday, 3-4 September 2018.
- June 2017 Talk, on invitation, entitled “Equitable block colourings for systems of 4-kites” at the workshop “HyGraDe 2017” held in Sant’Alessio on the occasion of Mario Gionfriddo 70th birthday, June 2017.
- May 2016 Talk entitled “Equitable block colourings of cycle systems” at the conference “Combinatorics 2016”, organized by the University of Basilicata and held in Maratea, May-June 2016.
- January 2014 Talk entitled “On the lifting problem in \mathbb{P}^4 in characteristic p ” at the workshop “Vector bundles days II”, held in Trieste on the occasion of Emilia Mezzetti’s 60th birthday, January 2014.

Other activities

Section editor for the journal Filomat, ISSN 2406-0933, from November 2016.

Reviewer for Mathematical Reviews and zbMATH Open.

Referee for various journals.

Language Skills

Mother tongue Italian

English

Reading skills Excellent

Writing Skills Excellent

Verbal communication skill Excellent

Certifications On July 2002 level 10 of the certificate “Spoken English for Speakers of Other Languages”, Trinity College London.