

RESEARCH CV

SIMONA BONVICINI

EDUCATION

February 24, 2006, PhD in Mathematics at the University of Modena and Reggio Emilia, Italy. Title of the thesis: “One-factorizations and automorphism groups”; dissertation advisor: Prof. Arrigo Bonisoli.

April 4, 2002, Master degree in Mathematics, Summa cum Laude at the University of Modena and Reggio Emilia, Italy. Title of the thesis: “Planar sets of permutations”, dissertation advisor: Prof. Pasquale Quattrocchi.

ACADEMIC POSITIONS

September 1, 2021-current, Associate Professor at the Department of Physics, Informatics and Mathematics, University of Modena and Reggio Emilia, Italy.

From December 23, 2008 to August 31, 2021, Assistant at the University of Modena and Reggio Emilia, Italy.

From January 1, 2007 to December 22, 2008, Research Fellow at University of Padua, Italy. Research topic: blocking sets.

From May 2006 to December 2006, Post-graduate research at the University of Modena and Reggio Emilia, Italy. Research topic: decompositions of regular graphs.

MAIN SCIENTIFIC INTERESTS

edge-coloring in graphs; hamiltonian cycles; cycle decompositions of Eulerian graphs; combinatorial designs with a non-trivial automorphism group.

PhD STUDENTS

Maria Chiara Molinari, “Even cycle decompositions of index 3 in 4-regular line graphs”, PhD in Mathematics at the University of Modena and Reggio Emilia joint with the University of Parma and Ferrara, February, 2022.

AWARDS

“The Petra Šparl Award 2020” for the contributions to the paper ‘Octahedral, dicyclic and special linear solutions of some Hamilton-Waterloo problems’ co-authored with Marco Buratti and published in *Ars Mathematica Contemporanea* 14 (2018), 1–14. The award recognizes in each even-numbered year the best paper published in the previous five years by a young woman mathematician in one

of the two journals *Ars Mathematica Contemporanea* and *The Art of Discrete and Applied Mathematics*.

“Funding for Basic Activities Related to Research, year 2017”, research grant from MIUR for the positive evaluation of the research activity.

TEACHING ACTIVITIES

From the a.y. 2022/2023, “Combinatorial Geometry” for the Master Degree in Mathematics, University of Modena and Reggio Emilia, Italy.

From 2016-current, “Geometry” for the First Degree in Mathematics, University of Modena and Reggio Emilia, Italy.

From 2014-current, “Mathematics” for the First Degree in Natural Sciences, University of Modena and Reggio Emilia, Italy.

From 2014-current, “[Mathematics and information technology](#)” for the First Degree in Geological Sciences, University of Modena and Reggio Emilia, Italy.

POSTGRADUATE TEACHING

Lectures within PhD courses for the PhD program in Mathematics, University of Modena and Reggio Emilia joint with the University of Parma and Ferrara. Title of the lectures: “Signed graphs” 2022; “Latin Squares” 2021; “Indecomposable structures” 2020; “The GAP-system” 2019.

An invited lecture titled "Linear Programming and Combinatorial Applications" PhD Summer School in Combinatorial Geometry, Università Cattolica del Sacro Cuore di Brescia, July 2004.

MEMBERSHIP

Fellow of the Institute of Combinatorics and its Applications since 2020.

Faculty member of the PhD in Mathematics, University of Modena and Reggio Emilia joint with the University of Parma and Ferrara since 2012.

Participant of the following Italian PRIN projects: “Geometric structures, combinatorics and their applications” (edition 2012, 2005); “Combinatorial designs, graphs and their applications” (edition of 2008).

Member of G.N.S.A.G.A (Gruppo Nazionale per le Strutture Algebriche, Geometriche e Loro Applicazioni) since 2004.

VISITING

Visiting professor in Ljubljana, University Ljubljana, 2012 and May 2023.

Reviewer for Mathematical Reviews of AMS and referee for the following journals: *Ars Mathematica Contemporanea*, *Australasian Journal of Combinatorics*, *Bulletin of the Institute of Combinatorics and its Applications*, *Bulletin of the Malaysian Mathematical Sciences Society*, *Designs Codes and Cryptography*, *Discrete Mathematics*, *Discussiones Mathematicae Graph*

Theory, European Journal of Combinatorics, Journal of Combinatorial Designs, Journal of Graph Theory, Electronic Journal of Combinatorics, SIAM Journal on Discrete Mathematics, Theory and Applications of Graphs.

INTERNATIONAL CONFERENCES

She delivered 31 presentations at international conferences. A list of selected lectures:

“Even cycle decompositions in 4-regular graphs”, Maribor Graph Theory Conference, Sollovenia, 2023.

“A colored approach for the self-assembly of DNA structures”, keynote speaker at the minisymposium: Applied Combinatorial and Geometric Topology of 8th European Congress of Mathematics, Slovenia, 2021.

"On the existence of indecomposable 1-factorizations of λK_{2n} ", Conference on Combinatorics and its Applications, Singapore 2018.

"Edge-critical graphs from the Möbius strip", Graphs, groups, and more: celebrating Brian Alspach's 80th and Dragan Marušić's 65th birthdays, Slovenia, 2018.

"Non-existence of indecomposable 1-factorizations of the complete multigraph λK_{2n} ", The Second Malta Conference in Graph Theory and Combinatorics 2017", Malta, 2017.

"On the number of palettes in edge-colorings of 4-regular graphs", 9th International colloquium on graph theory and combinatorics, France, 2014.

"Classification of Hamiltonian I-graphs", 24th British Combinatorial Conference, UK, 2013.

"1-rotational Steiner triple systems", 23th British Combinatorial Conference, UK, 2011.

"1-factorizations in infinite graphs", Combinatorics 2010", Italy, 2010.

"On perfectly one-factorable cubic graphs", Fifth Cracow Conference on Graph Theory, Poland, 2006.

"Starters: doubling constructions", 35th Southeastern International Conference on Combinatorics, Graph Theory and Computing, USA, 2004.

ORGANIZATION

Member of the scientific and organizing committee of the conference “Combinatorics 2022”, Mantua, Italy, 2022.

Member of the scientific and organizing committee of the series “Discrete Mathematics Seminars”, a series of seminars in collaboration with the University of Brescia, University of Modena and Reggio Emilia, University of Verona, since 2018.

Organizer of the conference “XXVI Convegno UMI-CIIM, Unione Matematica Italiana – Commissione Italiana per l’insegnamento della Matematica”, Italy, 2006.

Last updated on 9th July 2024