Francesca MEROLA

Dipartimento di Matematica, Università di Roma Tre
Largo S.L. Murialdo, 00146 Roma – Italy
email: `merola@mat.uniroma3.it`
homepage: `http://ricerca.mat.uniroma3.it/users/merola`

ACADEMIC APPOINTMENTS:

- October 2006 to present: Ricercatore di Geometria–MAT/03 (Lecturer), Department of Mathematics, University of Roma Tre.

- Research contract with the Department of Mathematics "G. Castelnuovo" of the University of Rome "La Sapienza" with the research group "Gruppi Grafi e Geometrie" (Groups, Graphs and Geometries) (2004-2005).

- Post-doc at the Department of Mathematics of the University of Rome "La Sapienza": Title of the research: "Gruppi di permutazioni e strutture combinatorie" (2002-2004).

- Research contract with the Department of Mathematics of the University of Rome "La Sapienza" (2000-2001).

- Post-doc at the Department of Mathematics of the University of Rome "La Sapienza" (1999-2000).

EDUCATION:

- PhD In Mathematics, University of Palermo
  Thesis: *Orbits of infinite permutation groups*
  Thesis advisor: Peter J. Cameron (February 1999).

- Laurea di Dottore in Matematica (Degree in Mathematics) - University of Roma "La Sapienza"
  Thesis: *Insiemi differenza e moltiplicatori* (Difference sets and multipliers)
  Thesis advisor: Prof. Dina Ghinelli (November 1992).

RESEARCH INTERESTS:

- Combinatorics and Algebra: Design Theory, Graph Theory, Permutation Groups, Algebraic Combinatorics.

SELECTED PUBLICATIONS:

1. Orbits on n-tuples for infinite permutation groups, *European J. Combin.* **22** (2001), 225–241.

2. Cycle action on treelike structures (with Daniele A. Gewurz), *J. Algebraic Combin.*, **20** (2004), 301–310.

3. Some factorisations counted by Catalan numbers (with Daniele A. Gewurz), *European J. Combin.* **27** (2006), 990–994.

4. Product action, (with Peter J. Cameron and Daniele A. Gewurz), *Discrete Math.*, **308** (2008), 386–394.

5. Numeration and enumeration (with Daniele A. Gewurz). *European J. Combin.* **33** (2012), 1547–1556.

6. Dihedral Hamiltonian cycle systems of the cocktail party graph (with Marco Buratti), *J. Combin. Des.* **21** (2013), 1–23.

7. Cyclic and Symmetric Hamiltonian decompositions (with Marco Buratti), to appear in *J. Combin. Des.* doi: `10.1002/jcd.21351`.

TEACHING EXPERIENCE:

- Courses taught from 2004, at the Università di Roma Tre, Faculty of Engineering:

  - Geometria (Geometry)
  - Algebra Lineare (Linear Algebra)
  - Elementi di Crittografia (Introduction to Cryptography)
  - Combinatoria nella Protezione dell'Informazione (Combinatorics applied to the Protection of Information)
  - Matematica Discreta (Discrete Mathematics)
  - Algebra Lineare II (Advanced Linear Algebra)

- TA for the course "Combinatorics", Queen Mary, University of London (1996); TA for the course "Geometria Superiore" (Higher geometry), Department of Mathematics, University of Rome "La Sapienza", (1999, 2000, 2001, 2003); TA for the course of "Geometria", Polo di Latina (sede decentrata dell'Università di Roma "La Sapienza") (2000).

ACADEMIC VISITS:

- T.U. Braunschweig (Germany), to work under the supervision of Prof. U. Ott (1991-92 and 1993)

- Queen Mary, University of London (UK), to work with Professor P.J. Cameron (1996-99, 2003)

CONFERENCES:

- Recent talks given by invitation:
  Numeration Systems, Fourth Pythagorean Conference, Corfù (Greece) 2010
  Regular cycle systems, Finite Geometries Third Irsee Conference, Irsee (Germany) 2011
  An introduction to combinatorial designs and graph decompositions, EMAp, FGV, Rio de Janeiro (Brazil), 2012

- Recent conference talks:
  Linear Numeration Systems, British Combinatorial Conference, St Andrews (UK) 2009
  Dihedral Cycle Systems, Shanghai Conference on Combinatorics, Shanghai (PRC) 2011
  Regular Hamiltonian cycle systems, Combinatorics 2012, Perugia (Italy) 2012