

Curriculum Vitæ

Mario Marietti

Current Address

Dipartimento di Ingegneria Industriale e Scienze Matematiche,
Università Politecnica delle Marche,
Via Brezze Bianche-60131-Ancona, Italy.

Education

January, 2004

Ph.D. in Mathematics, "Sapienza" Università degli Studi di Roma 1 (with one semester at MIT, Massachusetts Institute of Technology, Cambridge, MA, USA). Thesis advisor: Francesco Brenti. Thesis: "Kazhdan-Lusztig theory: Boolean elements, special matchings and combinatorial invariance".

March, 1999

Laurea di Dottore in Matematica, voto 110/110 *cum laude*, Università degli Studi di Roma "La Sapienza". Thesis advisor: Claudio Procesi. Thesis: "Localizzazione di Categorie Derivate: Categorie Triangolate".

Positions

01/11/2014–present

Professore Associato, Università Politecnica delle Marche.

01/11/2012–31/10/2014

Ricercatore Universitario, Università Politecnica delle Marche.

Academic years 2006/07, 2007/08, 2008/09, 2009/10, 2010/11, 2011/12

Temporary Professor, Facoltà di Ingegneria, Università di Roma "La Sapienza".

02/03/2011–31/10/2012

Post-doctoral Fellow, Università di Chieti-Pescara.

15/10/2010–15/01/2011

Post-doctoral Fellow, Department of Pure and Applied Mathematics, Università degli studi di Padova.

01/09/2006–31/08/2010

Post-doctoral Fellow, Department of Mathematics, Università degli Studi di Roma "La Sapienza".

01/04/2006–30/06/2006

Post-doctoral Fellow, Department of Mathematics, Università degli Studi di Roma "La Sapienza" (programme: "Gruppi di trasformazioni e applicazioni" under the direction of Prof. Corrado De Concini).

16/06/2005–31/03/2006

Post-doctoral Fellow, Department of Mathematics, Università degli Studi di Roma "La Sapienza" (programme: "Gruppi di trasformazioni e applicazioni" under the direction of Prof. Corrado De Concini).

15/01/2005–15/06/2005

Post-doctoral grant at the Mittag-Leffler Institute -The royal Swedish Academy of Sciences-, programme “Algebraic Combinatorics”.

2004

Post-doctoral Fellow, Department of Mathematics, Università di Roma “Tor Vergata” (programme: “Kazhdan–Lusztig polynomials”).

Publications on International Journals

- 29 Cerulli-Irelli, G; Esposito, F; Marietti, M: *Motzkin combinatorics in linear degenerations of the flag variety* International Mathematics Research Notices, vol. 2023, No. 22, pp. 19184–19204;
28. Marietti, M: *Bruhat intervals and parabolic cosets in arbitrary Coxeter groups*, Journal of Algebra, **614** (2023), 1-4;
27. Cellini, P; Marietti, M: *Root systems, affine subspaces, and projections*, Journal of Algebra, **587** (2021), 310-335;
26. Caselli, F; Marietti, M: *Pircon kernels and up-down symmetry*, Journal of Algebra, **565** (2021), 324-352;
25. Caselli, F.; D’Adderio, M.; Marietti, M.: *Weak Generalized lifting property, Bruhat intervals and Coxeter matroids*, International Mathematics Research Notices, vol. 2021, Issue 3 (2021), 1678-1698;
24. Marietti, M: *Kazhdan–Lusztig R -polynomials for pircons*, Journal of Algebra, **534** (2019), 245-272;
23. Marietti, M: *The combinatorial invariance conjecture for parabolic Kazhdan–Lusztig polynomials of lower intervals*, Advances in Mathematics, **335** (2018), 180-210;
22. Brenti, F; Marietti, M: *Fixed points and adjacents for classical complex reflection groups*, Advances in Applied Mathematics, **101** (2018), 168-181;
21. Caselli, F; Marietti, M: *A simple characterization of special matchings in lower Bruhat intervals*, Discrete Mathematics, **341** (2018), 851-862;
20. Caselli, F; Marietti, M: *Special matchings in Coxeter groups*, European Journal of Combinatorics, **61** (2017), 151-166;
19. Marietti, M.: *Special matchings and parabolic Kazhdan–Lusztig polynomials*, Transactions of the American Mathematical Society, **368** (2016), 5247-5269;
18. Cellini, P.; Marietti, M: *Polar root polytopes that are zonotopes*, Séminaire Lotharingien de Combinatoire, **73** (2015), B73a;
17. Cellini, P.; Marietti, M: *Root polytopes and Borel subalgebras*, International Mathematics Research Notices, **12 2105** (2015), 4392-4420;
16. Cellini, P.; Marietti, M: *Root polytopes and Abelian ideals*, Journal of Algebraic Combinatorics, **33** (2014), 607-645;
15. Marietti, M.; Testa D.: *Conical and spherical graphs*, European Journal of Combinatorics, **33** (2012), 1606-1618.

14. Brenti, F.; Incitti, F.; Marietti, M.: *Kazhdan-Lusztig polynomials, tight quotients and Dyck superpartitions*, Advances in Applied Mathematics, **47** (2011), 589-614.
13. Marietti, M.: *Parabolic Kazhdan-Lusztig and R -polynomials for Boolean Elements in the symmetric group*, European Journal of Combinatorics, **31** (2010), 908-924.
12. Marietti, M.: *A combinatorial characterization of Coxeter groups*, SIAM Journal on Discrete Mathematics, **23** (2009), no 1, 319-332.
11. Marietti, M.; Testa D.: *A uniform approach to complexes arising from forests*, Electronic Journal of Combinatorics, 2008.
10. Marietti, M.; Testa D.: *Cores of simplicial complexes*, Discrete and Computational Geometry, **40** (2008), no 3, 444-468.
9. Marietti, M.: *On a duality in Coxeter groups*, European Journal of Combinatorics, **29** (2008), 1555-1562.
8. Brenti, F.; Caselli, F.; Marietti, M.: *Special matchings and Coxeter groups*, Archiv der Mathematik, **89** (2007), no 4, 298-310.
7. Marietti, M.: *Algebraic and combinatorial properties of zircons*, Journal of Algebraic Combinatorics, **26** (2007), no 3, 363-382.
6. Brenti, F.; Caselli, F.; Marietti, M.: *Special matchings and permutations in Bruhat orders*, Advances in Applied Mathematics, **38** (2007), 210-226.
5. Brenti, F.; Caselli, F.; Marietti, M.: *Special matchings and Kazhdan-Lusztig polynomials*; Advances in Mathematics, **202** (2006), 555-601.
4. Brenti, F.; Caselli, F.; Marietti, M.: *Diamonds and Hecke algebra representations*, International Mathematics Research Notices, vol. 2006, Article ID 29407, 34 pg, 2006.
3. Caselli, F.; Marietti, M.: *Formulas for multi-parameter classes of Kazhdan-Lusztig polynomials in $S(n)$* , Discrete Mathematics, **306** (2006), 711-725.
2. Marietti, M.: *Boolean elements in Kazhdan-Lusztig theory*, Journal of Algebra **295** (2006), no 1, 1-26.
1. Marietti, M.: *Closed product formulas for certain R -polynomials*, European Journal of Combinatorics **23** (2002), 57-62.

Chapters in Books

- Alessio, F. G.; Brambilla, M. C.; Calamai, A.; de Fabritiis, C.; Demeio, L.; Franca, M.; Marcelli, C.; Marietti, M.; Montecchiari, P.; Papalini, F.; Petrini, M.; Telloni, A. I.: *New Multimedia Technologies as Tools for a Modern Approach to Scientific Communication and Teaching of Mathematical Sciences*, In: Longhi S., Moneriù A., Freddi A., Frontoni E., Germani M., Revel G. (eds) The First Outstanding 50 Years of "Università Politecnica delle Marche". Springer, Cham, 2019.
- Marietti, M.: *Root Polytopes of crystallographic root systems*, In: Benedetti B., Delucchi E., Moci L. (eds) Combinatorial Methods in Topology and Algebra. Springer INdAM Series, vol 12. Springer, Cham, 2015.

Proceedings of Conferences and Workshops

- Marietti, M.: *La Congettura di Dyer–Lusztig*, XIX Congresso dell’Unione Matematica Italiana, Bologna, 2011
- Marietti, M.: *Una generalizzazione algebrica di alcune identità di Stanley*, Incontro Nazionale di Algebra Moderna, Istituto Nazionale di Alta Matematica (INDAM), Roma, Italia, 2010
- Marietti, M.: *Kazhdan–Lusztig polynomials, tight quotients and Dyck superpartitions*, Oberwolfach Report No. 15/2010, 861–863

Other Publications

- *La Garzantina di Matematica* (Mathematics Encyclopedia), ed. Garzanti, 2013 (Collaborator for Topology)

Refereeing

- (several times) for *Advances in Mathematics*, *Combinatorica*, *Discrete Mathematics*, *Electronic Journal of Combinatorics*, *European Journal of Combinatorics*, *Journal of Algebra*, *Journal of Algebraic Combinatorics*, *Journal of Combinatorial Theory*, *Journal of the European Mathematical Society*, *International Mathematics Research Notices*, *Mathematische Zeitschrift*, *Order*, *Selecta Mathematica new series*, *The Australasian Journal of Combinatorics*, *Transactions of the American Mathematical Society*.
- National Security Agency Mathematical Sciences Grants program, USA.

Organization of conferences

- I am the common organizer of “Algebraic Combinatorics in”, which is a series of international conferences on Algebraic Combinatorics (in a broad sense).
 - Algebraic Combinatorics in Ancona (with Martina Lanini, Agnese Telloni), June 2018.
 - Algebraic Combinatorics in Genova (with Aldo Conca, Emanuela De Negri), September 2019.
 - Algebraic Combinatorics in Cetraro (with Paola Cellini, Luca Moci), July 2020 (cancelled).

<http://math-diism.univpm.it/marietti/algebraic-combinatorics-in/>

- Program Committee of FPSAC 2021 (postponed to January 2022), Bar-Ilan University, Ramat-Gan (Israel).
- Workshop “Bruhat order: recent developments and open problems”(with Riccardo Biagioli, Angela Carnevale, Christophe Howlheg), April 2024, Università di Bologna.