

Eloisa Michela Detomi

Curriculum vitae

Personal Information

First Name: Eloisa Michela

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Padova, Italy

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Academic Position and education

From 12/2023 Full Professor - MAT/02 - Algebra, Dipartimento di Matematica "Tullio Levi-Civita",
Università degli Studi di Padova.

10/2022 - Associate Professor - MAT/02 - Algebra, Dipartimento di Matematica "Tullio Levi-
12/2023 Civita", Università degli Studi di Padova.

05/2019 - Associate Professor - MAT/02 - Algebra, Dipartimento di Ingegneria dell'Informazione,
9/2022 Università degli Studi di Padova.

2002-2019 Researcher (Ricercatore Universitario) MAT/02 - Algebra, Dipartimento di Matematica,
Università degli Studi di Padova

2000-2002 Postdoctoral Researcher (Assegno di ricerca), Università di Brescia.

1996-2000 PhD in Mathematics, XII ciclo (1996-2000), Dipartimento di Matematica "U. Dini",
Università di Firenze, Supervisor: Prof. C. Casolo.

1996 Laurea in Matematica, Facoltà di Scienze Matematiche Fisiche e Naturali, Università di
Padova (110/110 cum laude).

Grants and Participation to research groups and projects

From 2023 "Grupos profinitos" (coordinator Prof. Pavel Zalesski) Edital universal do CNPq.

From 2023 PRIN PNRR 2022, unità di ricerca di LUCCHINI Andrea (coordinatore: GIANNELLI
Eugenio)

2018 - 2019 P.I. "Verbal subgroups in profinite and residually finite groups", Progetto di Ricerca di
Ateneo, BIRD185350/18 (from 24/10/2018 to 23/09/2019)

2017 Finanziamento Annuale Individuale delle attività Base di Ricerca, 2017.

2016 -2018 "Estruturas Algébricas" (P.I. Norai Romeu Rocco) PGCI/Fapdf Edital 03/2016, Univer-
sity of Brasilia (BR).

2015 - 2017 "Metodos combinatorios em teoria de grupos profinitos", Projeto da capes no ambito
Programa Geral de Cooperacao Internacional (CAPES/PGCI) n. 051/14, University
of Brasilia (BR) Università Degli Studi di Milano-Bicocca and Università Degli Studi di
Padova (coordinator Prof. P. Zalesski).

- 2015 PRIN 2015 “Group theory and applications”.
- 2014 Prati 2014 “Invariable generation of groups” (P.I. A. Lucchini).
- 2002 - 2009 PRIN 2002, PRIN 2005, PRIN 2007, PRIN 2009 “Teoria dei Gruppi e Applicazioni”.
- 1994 Grant for Students in Mathematics, C.N.R.

--- Organisation of Scientific Meetings

- Topics in Group Theory, Padova, September 10th - 13th 2024, Scientific organizers: Francesca Dalla Volta (Università di Milano Bicocca), Eloisa Detomi (Università di Padova), Marta Morigi (Università di Bologna), Gemma Parmeggiani (Università di Padova), Pablo Spiga (Università di Milano Bicocca). <https://events.math.unipd.it/tgt/>
- Finite and Residually Finite Groups, celebrating Pavel Shumyatsky’s 60th birthday, Bilbao (Spain), Bizkaia Aretoa (UPV/EHU University), 20 - 23 June 2023 Scientific organizers: Cristina Acciarri (University of Brasilia), Eloisa Detomi (Università di Padova), Gustavo Fernández Alcober (University of the Basque Country), Leire Legarreta Solaguren (University of the Basque Country), Andrea Lucchini (University of Padova). <https://acciarri cristina.wixsite.com/pavel60/>
- New Trends Around Profinite Groups, CIRM, Trento, 13-17 September 2021 Scientific organizers: Eloisa Detomi (Università di Padova), Benjamin Klopsch (Universitaet Duesseldorf), Peter Symonds (University of Manchester), Christopher Voll (Universitaet Bielefeld), Thomas Weigel (Università di Milano Bicocca). <http://reh.math.uni-duesseldorf.de/internet/Levico2020/>
- Zeta functions of groups and related algebraic structures, Padova, Italy, 22-25 September 2013. Scientific organizers: Eloisa Detomi (Università degli Studi di Padova), Benjamin Klopsch (Heinrich-Heine-Universität Düsseldorf), Andrea Lucchini (Università degli Studi di Padova), Christopher Voll (Universität Bielefeld / University of Southampton).
- Una giornata per Silvia, Padova, 26 - 27 Marzo 2010.
- Incontro di Teoria dei gruppi, Padova, 19-20 Settembre 2008.
- Teoria dei gruppi e applicazioni, Padova, 27-29 Settembre 2006.

--- Invited talks

- Commuting probability for subgroups in finite and profinite groups, Summer Workshop in Mathematics, Department of Mathematics Instituto de Ciências Exatas, Universidade de Brasília Brasília, Brazil, February 17 - 21, 2025
- Commuting probability for subgroups in finite group, (Plenary Talk) Summer Workshop in Mathematics, Department of Mathematics Instituto de Ciências Exatas, Universidade de Brasília Brasília, Brazil, February 05th to 09th, 2024.
- The Engel Graph of a finite group, Colombian meeting in Group Theory and Its Applications, Barranquilla, Colombia, 24 - 25 November 2022.
- Conciseness and strong conciseness in profinite groups, XII Summer Workshop in Mathematics, Department of Mathematics, Universidade de Brasilia, February 10 - 14, 2020.
- Conciseness and strong conciseness in profinite groups, Group theory days in Düsseldorf, Düsseldorf, 20 - 21 January 2020.
- BFC-theorems for higher commutator subgroups, XI Summer Workshop in Mathematics, Department of Mathematics, Universidade de Brasilia, February 18 - 22, 2019.
- On profinite groups with commutators covered by countably many subgroups or cosets, Una giornata per Silvia, 28 Settembre 2018, Udine.
- On conciseness of Engel-like words in residually finite groups, 'Nordeutsches Gruppentheorie- Kolloquium' Braunschweig, Germany, 29./30. June 2018.
- On invariable generation of groups, Asymptotic group theory, 17-21 August, 2015, Renyi Institute, Budapest.

— List of publications and Preprints

In press

1. E. Detomi, A. Lucchini, M. Morigi, P. Shumyatsky, Probabilistic properties of profinite groups. *Israel J. Math.* 10.1007/s11856-025-2807-1, arXiv:2304.04573.
2. E. Detomi, A. Lucchini, M. Morigi, P. Shumyatsky, Commuting probability for the Sylow subgroups of a finite group. *Israel J. Math.* To appear, arXiv:2311.10454.

Published Articles:

1. E. Detomi, M. Morigi, P. Shumyatsky, Groups with a covering condition on commutators. *Internat. J. Algebra Comput.* 35 (2025), no. 5, 759?770.
2. E. Detomi, M. Morigi, P. Shumyatsky, Commuting probability for the Sylow subgroups of a profinite group. *Math. Z.* 309 (2025), no. 3, Paper No. 52, 13 pp.
3. E. Detomi, M. Morigi, P. Shumyatsky, On groups with BFC-covered word values. *J. Algebra* 659 (2024), 132–147.
4. E. Detomi, M. Morigi, P. Shumyatsky, Commuting probability for approximate subgroups of a finite group. *Q. J. Math.* 75 (2024), 507–520.
5. E. Detomi, M. Morigi, P. Shumyatsky, Commutators, centralizers, and strong conciseness in profinite groups, *Math. Nachr.* 296 (2023), no. 11, 4948–4960. DOI: 10.1002/mana.202200320
6. E. Detomi, M. Morigi, P. Shumyatsky, Bounding the order of a verbal subgroup in a residually finite group, *Israel J. Math.* 253 (2023), no. 2, 771–785.
7. E. Detomi, A note on strong conciseness in virtually nilpotent profinite groups. *Arch. Math. (Basel)* 120 (2023), no. 2, 115–121.
8. E. Detomi, A. Lucchini, and D. Nemmi, The Engel graph of a finite group. *Forum Math.* 35 (2023), no. 1, 111–122.
9. E. Detomi, A. Lucchini, Strongly generating elements in finite and profinite groups. *J. Algebra* 618 (2023), 56–66.
10. E. Detomi, P. Shumyatsky, Pavel On the commuting probability for subgroups of a finite group. *Proc. Roy. Soc. Edinburgh Sect. A* 152 (2022), no. 6, 1551–1564.
11. E. Detomi, M. Morigi, P. Shumyatsky, Centralizers of commutators in finite groups. *J. Algebra* 612 (2022), 475–486.
12. E. Detomi, M. Morigi, P. Shumyatsky, On the rank of a verbal subgroup of a finite group. *J. Aust. Math. Soc.* 113 (2022), no. 2, 145–159.
13. E. Detomi, A. Lucchini, Profinite groups in which the probabilistic zeta function has no negative coefficients. *Internat. J. Algebra Comput.* 31 (2021), no. 2, 225–239.
14. E. Detomi, M. Morigi, P. Shumyatsky, Strong conciseness of coprime and anti-coprime commutators. *Ann. Mat. Pura Appl. (4)* 200 (2021), no. 3, 945–952.
15. E. Detomi, G. Donadze, M. Morigi, P. Shumyatsky, On finite-by-nilpotent groups. *Glasg. Math. J.* 63 (2021), no. 1, 54–58.
16. E. Detomi, M. Morigi, On finite-by-nilpotent profinite groups. *Int. J. Group Theory* 9 (2020), no. 4, 223–229.
17. E. Detomi, M. Morigi, P. Shumyatsky, Finite groups with small centralizers of word-values. *Monatsh. Math.* 191 (2020), no. 2, 257–265.
18. E. Detomi, B. Klopsch, P. Shumyatsky, Strong conciseness in profinite groups. *J. Lond. Math. Soc. (2)* 102 (2020), no. 3, 977–993.
19. E. Detomi, M. Morigi, P. Shumyatsky, Words of Engel type are concise in residually finite groups. Part II. *Groups Geom. Dyn.* 14 (2020), no. 3, 991–1005.
20. E. Detomi, M. Morigi, P. Shumyatsky, Pavel Profinite groups with restricted centralizers of commutators. *Proc. Roy. Soc. Edinburgh Sect. A* 150 (2020), no. 5, 2301–2321.

21. E. Detomi, M. Morigi, P. Shumyatsky, BFC-theorems for higher commutator subgroups. *Q. J. Math.* 70 (2019), no. 3, 849–858. arXiv:1803.04202.
22. E. Detomi, M. Morigi, P. Shumyatsky, Words of Engel type are concise in residually finite groups. *Bull. Math. Sci.* 9 (2019), no. 2, 1950012, 19 pp. arXiv:1711.04866.
23. E. Detomi, A. Lucchini, M. Moscatiello, P. Spiga, G. Traustason, Groups satisfying a strong complement property. *J. Algebra* 535 (2019), 35–52.
24. E. Detomi, M. Morigi, P. Shumyatsky, On bounded conciseness of Engel-like words in residually finite groups. *J. Algebra* 521 (2019), 1–15.
25. E. Detomi, A. Lucchini, M. Morigi, Invariable generation of groups of finite rank. *Adv. Group Theory Appl.* 6 (2018), 69–87.
26. E. Detomi, M. Morigi, P. Shumyatsky, On profinite groups with word values covered by nilpotent subgroups, *Israel J. Math.* 226 (2018), no. 2, 993–1008.
27. E. Detomi, M. Morigi, P. Shumyatsky, On profinite groups with commutators covered by countably many cosets, *Journal of Algebra* 508 (2018) 431–444.
28. E. Detomi, M. Morigi, P. Shumyatsky, On groups covered by locally nilpotent subgroups. *Ann. Mat. Pura Appl.* (4) 196 (2017), no. 4, 1525–1535.
29. E. Detomi, A. Lucchini, M. Morigi, The limiting distribution of the product replacement algorithm for finitely generated prosoluble groups. *J. Algebra* 468 (2016), 49–71.
30. E. Detomi, P. Shumyatsky, On the length of a finite group and of its 2-generator subgroups. *Bull. Braz. Math. Soc. (N.S.)* 47 (2016), no. 3, 845–852.
31. E. Detomi, A. Lucchini, Maximal subgroups of finite soluble groups in general position. *Ann. Mat. Pura Appl.* (4) 195 (2016), no. 4, 1177–1183.
32. E. Detomi, A. Lucchini, Invariable generation of prosoluble groups. *Israel J. Math.* 211 (2016), no. 1, 481–491.
33. E. Detomi, M. Morigi, P. Shumyatsky, On conciseness of words in profinite groups. *J. Pure Appl. Algebra* 220 (2016), no. 8, 3010–3015.
34. E. Detomi, A. Lucchini, C.M. Roney-Dougal, Coprime invariable generation and minimal-exponent groups. *J. Pure Appl. Algebra* 219 (2015), no. 8, 3453–3465.
35. E. Detomi, A. Lucchini, Invariable generation of permutation groups. *Arch. Math. (Basel)* 104 (2015), no. 4, 301–309.
36. E. Detomi, A. Lucchini, Invariable generation with elements of coprime prime-power order, *Journal of Algebra* 423 (2015) 683–701. arXiv:1409.0997
37. E. Detomi, M. Morigi, P. Shumyatsky, On countable coverings of word values in profinite groups, *J. Pure Appl. Algebra* 219 (2015), no. 4, 1020–1030. arXiv:1309.0636.
38. E. Detomi, A. Lucchini, C.M. Roney-Dougal, On the probability of generating a monolithic group. *J. Algebra* 407 (2014), 413–433.
39. E. Detomi, M. Morigi, P. Shumyatsky, Commutators and pronilpotent subgroups in profinite groups, *Monatshefte für Mathematik*, 175 (2014), no. 1, 117–125.
40. E. Detomi, M. Morigi, P. Shumyatsky, Bounding the Exponent of a Verbal Subgroup. *Ann. Mat. Pura Appl.* (4) 193 (2014), no. 5, 1431–1441.
41. E. Detomi, A. Lucchini, Characterization of finitely generated infinitely iterated wreath products. *Forum Math.* 25 (2013) p. 867–886.
42. E. Detomi, A. Lucchini, Probabilistic generation of finite groups with a unique minimal normal subgroup. *J. Lond. Math. Soc.* (2), vol. 87 (2013) p. 689–706.
43. E. Detomi, A. Lucchini, On the structure of primitive n -sum groups, *Cubo*, vol. 3 (2008); p. 195–210.
44. E. Detomi, A. Lucchini, Some generalizations of the probabilistic zeta function. *Ischia group theory 2006*, 56–72, World Sci. Publ., Hackensack, NJ, 2007.
45. E. Detomi, A. Lucchini, Non-prosoluble profinite groups with a rational probabilistic zeta function, *J. Group Theory*, vol. 10 (2007); p. 453–466.
46. E. Detomi, A. Lucchini, Probabilistic non-generators in profinite groups. In: *Ischia group theory 2004*, *Contemp. Math.*, 402, Israel Math. Conf. Proc., Amer. Math. Soc., Providence, RI, 2006.
47. E. Detomi, A. Lucchini, Profinite groups with a rational probabilistic zeta function. *J. Group Theory*

vol. 9 (2006) pp. 203-217

48. E. Detomi, A. Lucchini, Crowns in profinite groups and applications. De Concini, Corrado (ed.) et al., Noncommutative algebra and geometry. Selected papers of a conference in honor of Z. Borevich, St. Petersburg, Russia. Boca Raton, FL: CRC Press. Lecture Notes in Pure and Applied Mathematics 243, 47-62 (2005).
49. E. Detomi, On groups with all subgroups almost subnormal, J. Aust. Math. Soc. 77 (2004), no. 2, 165-174.
50. E. Detomi, A. Lucchini, Profinite groups with multiplicative probabilistic zeta function. J. London Math. Soc. (2) 70 (2004), no. 1, 165-181.
51. E. Detomi, A. Lucchini, Recognizing soluble groups from their probabilistic zeta function, Bull. Lond. Math. Soc., 35 (2003) 659-664.
52. E. Detomi, A. Lucchini, Crowns and factorization of the probabilistic zeta function of a finite group, J. Algebra 265 (2003), 651-668.
53. E. Detomi, Groups with many subnormal subgroups, J. Algebra, 264 (2003) 385-396.
54. E. Detomi, A. Lucchini, F. Morini, How many elements are needed to generate a finite group with good probability?, Israel J. Math. 132 (2002), 29-44.
55. E. Detomi, On the Nilpotent Length of some Residually Finite Groups, Journal of Group Theory Vol 4 (2001) 193-197
56. E. Detomi, On some product of nilpotent groups, Communications in Algebra, Vol 26 Num 18 (1998) 3239-3247.

■ Teaching

- A.A. 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024, 2024/2025: Algebra Lineare Applicata (L.T. Matematica).
- A.A. 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024, 2024/2025: Algebra Lineare e Geometria (L.T. Ingegneria Biomedica).
- Phd-course "Conciseness of group words in residually finite groups", (with P. Shumyatsky, Brasilia) Doctoral Program in Mathematical Sciences, Università di Padova, November, 2021.
- A.A. 2015/2016, 2016/2017, 2017/2018: Algebra Lineare e Geometria (L.T. Ingegneria dell'Informazione)
- Phd-course "Generation of finite groups", Università di Brasilia, Brasile, Feb 16 to Feb 25, 2016.
- A.A. 2014/2015: Algebra e Matematica Discreta (L.T. Informatica)
- A.A. 2011/2012, 2012/2013, 2013/2014: Algebra e Geometria (L.T. Informatica).
- Phd-course (with D.Segal (Oxford)) "Profinite groups and profinite completions", Padova, 2012.
- A.A. 2009/2010: Algebra II (L.T. Matematica), Algebra Lineare Applicata (L.T. Matematica).
- A.A. 2007/2008: Algebra per Informatica (L.M. Informatica); Algebra II (L.T. Matematica).
- A.A. 2006/2007: Matematica 2 (L.T. Informatica).
- A.A. 2005/2006: Algebra per informatica (L.M. Informatica); Algebra e Geometria 1 (L.T. Informatica).
- A.A. 2004/2005: Matematica Classica (L. Matematica). Introduzione alla Teoria dei gruppi (L.M. Matematica), Matematica 2 (L.T. Informatica).
- A.A. 2003/2004: Matematica Classica (L. Matematica); Matematica di Base (L.T. Informatica), Introduzione alla Teoria dei gruppi (L. Matematica), Matematica 2 (L.T. Informatica).
- A.A. 2002/2003: Introduzione alla Teoria dei gruppi (L. Matematica), Matematica 2 (L.T. Informatica).