CURRICULUM VITÆ

PERSONAL INFORMATION

Luca Motto Ros

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Gender Male | Date of birth November 10th, 1979 | Nationality Italian

WORK EXPERIENCE

Sep 2017– Present — Associate professor
University of Turin, Department of Mathematics

Sep 2014 – Sep 2017 — Tenure-track researcher (Ricercatore TD-B)
University of Turin, Department of Mathematics

Oct 2010 – Sep 2014 — Assistant professor
University of Freiburg (Germany), Department of Logic

Oct 2007 – Sep 2010 — Post-doc
Kurt Gödel Research Center for Mathematical Logic, University of Vienna (Austria)

Jan 2004 – Dec 2006 — Ph.D. student in Mathematics (for the Engineering Sciences)
Polytechnic of Turin (Italy), I Facoltà di Ingegneria

EDUCATION AND QUALIFICATIONS

Habilitation 2017 — Italian national scientific qualification (full professor)
Sector 01/A1 – Mathematical logic, mathematics education and history of mathematics

Habilitation 2014 — German Habilitation and Venia Legendi (Fach Mathematik)
Awarded by Albert-Ludwigs-Universität Freiburg

Habilitation 2014 — Italian national scientific qualification (associate professor)
Sector 01/A1 – Mathematical logic, mathematics education and history of mathematics

Ph.D. degree 2007 — Ph.D. degree in Mathematics (for the Engineering Sciences)
Awarded by Polytechnic of Turin, supervisors: A. Andretta and R. Camerlo

Degree	**Degree in Mathematics**
2003	Awarded by University of Turin, relatore: A. Andretta

AWARDS AND HONOURS

2021	**Logic Colloquim 2021: Invited plenary speaker**

2017	**Paolo Gentilini prize 2017**
	awarded by AILA (Associazione Italiana di Logica e sue Applicazioni) to "an outstanding young researcher in the field of logic"

2015	**XX Congresso dell'UMI: Invited plenary speaker** (short talks)

2012	**Career reintegration research grant "Rita Levi Montalcini"**
	awarded by the Italian Ministry of Education, University and Research (MIUR)

2007	**Special mention**
	for the AILA prize for Ph.D. theses in logic

2003	**Medal for the best degree-thesis in mathematics**
	awarded by the University of Turin

SCHOLARSHIPS, FELLOWSHIPS, AND RESEARCH FUNDINGS

2017	**PRIN project** (PI of the unit of Turin)
	funded by the Italian Ministry of Education, University and Research (MIUR).
	Total co-funding: € $535.895, 00$; allocated to the unit of Turin: € $148.228, 00$

2015	**Visiting fellowship** of the Isaac Newton Institute for Mathematical Sciences (Cambridge)
	Programme *Mathematical, Foundational and Computational Aspects of the Higher Infinite* (organizers: J. Bagaria, M. Dzamonja and B. Löwe)

2012	**Career reintegration research grant "Rita Levi Montalcini"** (3 years)
	awarded by the Italian Ministry of Education, University and Research (MIUR).
	Total funding: € $189.373, 00$

2007	**Post-Doc Scholarship** (3 years)
	awarded by the Kurt Gödel Research Center (*Chair:* S. D. Friedman) on behalf of the FWF Wissenshaftsfonds - Austrian Science Fund

2004	**Ph.D. Scholarship** (3 years)
	awarded by the Polytechnic of Turin

RESEARCH PROJECTS

Principal Investigator/**Coordinator of a local unit** of the following projects:

PRIN 2017 — Mathematical Logic: models, sets, computability

Progetto di Ricerca di Interesse Nazionale (Project Number 2017NWTM8R), funded by Italian Ministry of Education, University and Research (MIUR), role: PI of the local unit of Turin

Total co-funding: € 535.895, 00*; allocated to the unit of Turin:* € 148.228, 00

Career Reintegration Research Grant — New advances in Descriptive Set Theory

Programma Giovani Ricercatori "Rita Levi Montalcini" 2012, funded by the Italian Ministry of Education, University and Research (MIUR), role: PI

Total funding: € 189.373, 00

Local Research Projects — Progetti di Ricerca finanziati dall'Università di Torino (ex 60%)

funded by the University of Turin, role: Coordinator of the logic group from 2014 to 2022

Total funding: € 61.745, 00

Additionally, I was a **member of the research team** in the following projects:

2007–2010 — Austrian research project: "*Inner and Outer models, Projective Sets*" (Project Nr. P 19898-N18), funded by FWF (Austria)

2009 — Exchange grant Austria-Russia: "*Finitary and Infinitary Logic — FWF-RFBR Joint Seminar*" (Project Nr. AJS 328-N18), funded by FWF (Austria)

2009–2010 — Exchange grant Vienna-Prague: "*Set Theory and its Applications*" (Project Nr. CZ 04/2009), funded by OeAD-GmbH ICM (Austria) and Czech Ministry of Education, Youth and Sports (Czech Republic)

2009–2010 — Exchange grant Vienna-Wrocław: "*Forcing, Descriptive Set Theory and Equivalence Relations*" (Project Nr. PL 01/2009), funded by OeAD-GmbH ICM (Austria) and Polish Ministry of Science and Higher Education (Poland)

2011–2013 — PRIN2009 (Progetto di Ricerca di Interesse Nazionale): "*Models and sets*" (Project Nr. 2009WY32E8), funded by Italian Ministry of Education, University and Research (Italy)

SELECTED PAPERS

27 papers published or accepted for publication since 2009, including the following ones:

2023 — *Anti-classification results for groups acting freely on the line*, **Advances in Mathematics**, joint work with F. Calderoni, D. Marker and A. Shani.

2023 — *Generalized Polish spaces at regular uncountable cardinals*, **Journal of the London Mathematical Society**, joint work with C. Agostini and P. Schlicht.

2022 — *Souslin quasi-orders and bi-embeddability of uncountable structures*, **Memoirs of the American Mathematical Society**, joint work with A. Andretta.

2021 — *A descriptive Main Gap Theorem*, **Journal of Mathematical Logic**, joint work with F. Mangraviti.

2020 — *Uncountable structures are not classifiable up to bi-embeddability*, **Journal of Mathematical Logic**, joint work with H. Mildenberger and F. Calderoni

2018   *On isometry and isometric embeddability between ultrametric Polish spaces*, **Advances in Mathematics**, joint work with R. Camerlo and A. Marcone

2018   *Universality of group embeddability*, **Proceedings of the American Mathematical Society**, joint work with F. Calderoni

2016   *The Hurewicz dichotomy for generalized Baire spaces*, **Israel Journal of Mathematics**, joint work with P. Lücke and P. Schlicht

2013   *On the structure of finite level and ω-decomposable Borel functions*, **Journal of Symbolic Logic**

2013   *Invariantly universal analytic quasi-orders*, **Transactions of the American Mathematical Society**, joint work with R. Camerlo and A. Marcone

The full list of my papers and publications can be found in **Annex A**.

SELECTED TALKS AND CONFERENCES

Since 2007 I gave **more than 70** research talks, in most cases as invited speaker in international conferences (41 talks) or logic seminars at other universities (19 talks) such as:

2023   Descriptive Set Theory & Dynamics, *Warsaw* (Poland)

          15th International Workshop in Set Theory, *CIRM Luminy* (France)

2022   Model Theoretic Logics and their Frontiers, *online* (Hungary)

          Workshop "Invariant descriptive computability theory", *AIM California* (US)

2021   Logic Colloquium 2021, *Poznań* (Poland)

          Caltech Logic Seminar, *Caltech* (US)

2020   Fifth Workshop on Generalised Baire Spaces, *Bristol* (UK)

2019   15th International Workshop in Set Theory, *CIRM Luminy* (France)

2018   Set theory today: A conference in honor of Georg Cantor, *KGRC Vienna* (Austria)

          Descriptive set theory conference, *Bernoully center (EPFL)*, Lausanne (Switzerland)

2017   14th International Workshop in Set Theory, *CIRM Luminy* (France)

          XXVI incontro dell'AILA, *Padua* (Italy)

2016   Bonn Set Theory Workshop 2016, *HIM Bonn* (Germany)

2015   XX Congresso dell'Unione Matematica Italiana, *Siena* (Italy)

2014   INFTY Final Conference, *HIM Bonn* (Germany)

          Set Theory Workshop, *Mathematisches Forschungsinstitut Oberwolfach* (Germany)

2013   6th Young Set Theory Workshop, *Oropa* (Italy)

2011   Logic Colloquium 2011 (special session: Set Theory), *Barcelona* (Spain)

          RaTLoCC 2011 — Ramsey Theory in Logic, Combinatorics and Complexity, *Bertinoro* (Italy)

2009   ESI Workshop on Large Cardinals and Descriptive Set Theory, *ESI Vienna* (Austria)

2008   Descriptive Set Theory in Paris, Institute of Mathematics of Jussieu, *Paris VI* (France)

2007   Set Theory Meeting in Amsterdam, *ILLC Amsterdam* (Holland)

          Set Theory and its neighbours—Analysis and Set Theory II, *University College of London* (UK)

Annex B contains a full list of my talks (with more details). **Annex C** contains a list of conferences that I have attended.

CONFERENCES ORGANIZATION

Organizer
– *Descriptive set theory and combinatorics*, University of Turin, Italy, 19–20.12.2022
– *8th European Set Theory Conference*, University of Turin, Italy, 29.8.2022–2.9.2022
– *Descriptive Set Theory Day in Torino*, University of Turin, Italy, 12.6.2018
– *Workshop on Wadge Theory and Automata II*, University of Turin, Italy, 8.6.2018
– *IIIM 2018 — Incontro Italiano Insiemi e Modelli 2018*, University of Turin, Italy, 21–23.2.2018
– *Descriptive Set Theory in Turin*, University of Turin, Italy, 6–8.9.2017
– *P.O.I Workshop in Pure and Descriptive Set Theory*, University of Turin, Italy, 25–26.9.2015
– *Workshop on Wadge theory and automata*, University of Turin, Italy, 28.1.2015
– *Set Theory Workshop in Freiburg*, University of Freiburg, Germany, 10–13.6.2014

Program Committee
– Coordinator of the Mathematical Logic section of the *XXII Congresso dell'Unione Matematica Italiana*, University of Pisa, Italy, 4–9.9.2023
– *10th Indian Conference on Logic and its Applications (ICLA)*, Indian Institute of Technology (IIT) Indore, India, 3–5.3.2023
– *8th European Set Theory Conference*, University of Turin, Italy, 29.8.2022–2.9.2022
– *8th Young Set Theory Workshop*, Israel Institute of Advanced Studies, Jerusalem, Israel, 25–30.10.2015

Local Organizing Committee
– *Meeting on Set Theory and Analysis*, University of Turin, Italy, 10–12.7.2006
– *Syzygy 2005 — an international Italian Conference in Commutative Algebra and Algebraic Geometry*, Polytechnic of Turin, Italy, 18–20.2.2005

OTHER SCIENTIFIC ACTIVITIES

Scientific Societies
Since January 2022 I am serving as a member of the **Board of Trustees** of the **European Set Theory Society**.

Seminars
– Co-founder and co-organiser of the permanent Logic Seminar at the University of Turin established in 2015.
– Co-founder and co-organizer of the Torino-Udine Logic Seminar, held online in the academic year 2020/21 during the Covid pandemic.
– Co-founder and co-organizer of the Cross-Alps Logic Seminar (joint with Genoa, Lausanne, and Udine), held in person and online since the academic year 2021/22.
– Co-founder and co-organizer of the European Set Theory Colloquium established in 2022.

Referee for:
Transactions of the American Mathematical Society, Bulletin of the London Mathematical Society, Journal of Symbolic Logic, Fundamenta Mathematicae, Mathematical Logic Quarterly, Topology and its Applications, Logical Methods in Computer Science, Real Analysis Exchange, Thai Journal of Mathematics, Mathematical Structures in Computer Science, STACS 2010, ICLA 2009, CiE 2008

Reviewer for:
Mathematical Reviews (MathSciNet), Zentralblatt, Österreichische Mathematische Gesellschaft

SUPERVISION OF POST-DOCS AND STUDENTS

Supervisor of **2 post-doc**, **6 Ph.D.** students, **13 master** thesis, and **7 bachelor** thesis.

Post-doc

Current: G. Basso (since 1.5.2023)

Former: F. Parente (from 1.9.2021 to 31.8.2023), currently JSPS Postdoctoral Fellow at the Graduate School of System Informatics of Kobe University

Ph.D. degree

Current: S. Scamperti (descriptive set theory, co-supervisor: dr. Raphaël Carroy, Turin), B. Pitton (generalized descriptive set theory, co-supervisor: prof. Jacques Duparc, Lausanne)

Former: – F. Calderoni, *A descriptive view of the bi-embeddability relation*, 2018
– F. Cavallari, *Regular tree languages in the first two levels of the Borel hierarchy* (co-supervisor: prof. Jacques Duparc, Lausanne), 2018
– V. Bard, *Uniform Martin's conjecture, locally*, 2021
– C. Agostini, *Generalized Descriptive Set Theory at uncountable cardinals & Actions of monoids in combinatorics*, 2022

Prizes: Agostini's thesis was awarded the **Montagna Prize 2023** by the AILA (Associazione Italiana di Logica e sue Applicazioni) and UMI (Unione Matematica Italiana) "for the best doctoral thesis in mathematical logic and its applications that has been defended in the period 2020–2022".

Calderoni's thesis was awarded the **Montagna Prize 2019** by the AILA (Associazione Italiana di Logica e sue Applicazioni) and UMI (Unione Matematica Italiana) "for the best doctoral thesis in mathematical logic and its applications that has been defended in the period 2016–2018".

Cavallari's thesis was awarded the **Paul Bernays Award 2018** by the Swiss Society for Logic and Philosophy of Science (SSLPS) as an "outstanding contribution in the area of logic and philosophy of science".

Additionally, I served as **referee** and/or **jury member** for the Ph.D. defences of Dr. F. Guichardaz (Albert-Ludwigs-Universität Freiburg, Germany, 2019), Dr. G. Gullà (University of Roma–Tor Vergata, Italy, 2019), and Dr. A. Hallbäck (Université de Paris 7, France).

Master degree

Current: M. Barbero, P. Boldrini, D. Miolano, D. Tucci

Former: – F. Damiani, *Sull'esistenza di insiemi proiettivi non misurabili* (co-supervisor: prof. C. Bernardi, Rome), University of Rome "La Sapienza", 2016/17
– F. Mangraviti, *The isomorphism relation of classifiable theories*, University of Turin, 2016/17
– M. Ratti, *Borel reducibility and the isomorphism problem for separable C^*-algebras*, University of Turin, 2016/17
– R. Treglia, *From natural deduction to $\lambda\mu$-calculus, and two abstract machines* (co-supervisor: B. Accattoli, INRIA, Paris), University of Turin, 2016/17
– M. Iannella, *On the classification of wild proper arcs and knots*, University of Turin, 2017/18
– S. Scamperti, *Graph homomorphism: decidability and complexity*, University of Turin, 2018/19
– B. Pitton, *Borel and Borel* sets in generalized descriptive set theory*, University of Turin, 2020/21
– D. Manca, *Results on the reverse mathematics of Fraïssé's conjecture*, University of Turin, 2020/21
– M. Viscariello, *Perfect matchings and paradoxical decompositions with the property of Baire*, University of Turin, 2021/22

Prizes: Pitton's thesis was awarded the **Premio AILA 3+2 2022** by the Associazione Italiana di Logica e sue Applicazioni (AILA) for the best Italian master thesis in logic.

Scamperti's thesis was awarded the **Premio AILA 3+2 2021** by the Associazione Italiana di Logica e sue Applicazioni (AILA) for the best Italian master thesis in logic.

Mangraviti's thesis was awarded the **Premio AILA 3+2 2018** by the Associazione Italiana di Logica e sue Applicazioni (AILA) for the best Italian master thesis in logic.

Bachelor degree

Current: S. Cantoni, D. Peccioli

Former:
- M. Lösch, *Determinacy of Borel-Games*, Albert-Ludwigs-Universität Freiburg, 2013/14
- J. Piribauer, *The Wadge hierarchy and the Steel-Van Wesep theorem*, Albert-Ludwigs-Universität Freiburg, 2013/14
- M. Ratti, *La proprietà dell'insieme perfetto per gli insiemi analitici*, University of Turin, 2014/15
- M. Barbero, *Equivalence among some classes of finite state automata on infinite words*, University of Turin, 2017/18
- D. Leso, *Logica della dimostrabilità*, University of Turin, 2019/20

TEACHING EXPERIENCES

2014 – Present   University of Turin

Since 2017: more than 120 hours per year. From 2014 to 2017: more than 90 hours per year.

Ph.D. (Mathematics)	*Topics in descriptive set theory*; *Generalized descriptive set theory*; *Infinite combinatorics, Banach spaces, and the first Baire class*; *Topics in mathematical logic*
Master (Mathematics)	*Topics in Mathematical Logic*; *Elements of Mathematical Logic* (master level); *Descriptive Set Theory*
Bachelor (Mathematics)	*Elements of Mathematical Logic* (bachelor level); *Mathematical Logic 1*
Bachelor (Computer science)	*Discrete mathematics and logic*; *Logic*
Bachelor (Chemistry)	*Mathematics II*; *Mathematics* (for the degree in Chemistry for sustainable manufacturing)

2010–2014   Albert-Ludwigs-Universität Freiburg

About 80 hours per year.

Ph.D. (Mathematics)	Oberseminar *Mengenlehre und Modelltheorie* (assistant)
Master (Mathematics)	Courses: *Descriptive Set Theory*; *Axiomatische Mengenlehre* (assistant)
	Seminar: *Game Theory*
Bachelor (Mathematics)	Course: *Mathematische Logik* (assistant)
	(Pro)Seminars: *Kombinatorik und Mengenlehre* (assistant); *Forcingtechniken* (assistant); *Einbettungen und bessere Quasiordnungen* (assistant); *Borelmengen und Hierarchien* (assistant); *Mengenlehre* (assistant)
Bachelor (Computer Science)	Course: *Logik für Studierende der Informatik* (assistant)

2003–2007   Polytechnic of Turin

Master (Computer Engineering)	*Discrete Mathematics* (assistant)
Bachelor (Computer Engineering)	*Mathematical Logic*

Annex D contains a detailed description of my teaching activity, divided according to academic years.

SCIENCE COMMUNICATION AND OTHER TEACHING ACTIVITIES

Invited speaker
- "Da Rat-Man a Math-Man: la matematica di Comics&Science — Misterius" (together with the comics writer Leonardo Ortolani), a public conference addressed to a broad audience (about 350 participants) on popularization of mathematics, Turin, 20.4.2015.
- "Tre mattine all'università — Matematica" (student orientation activity of the Department of Mathematics of the University of Turin), Turin, 23–25.2.2016.
- "PorteAperte" (student orientation activity of the Department of Mathematics of the University of Turin), Turin, 21.3.2016.
- National meeting "Educare alla razionalità - L'insegnamento della matematica e della logica nella scuola secondaria", Turin, 22–23.5.2019.
- Round table "La logica: pensiero, scienza e società", organized by AILA, SILFS, EATCS and UNINETTUNO as one of the official events to celebrate the *World Logic Day 2021* promoted by UNESCO and CIPSH, online, 14.1.2021.
- "L'inevitabile incompletezza della matematica" (a conference addressed to high school students interested in Mathematics), Turin, 25.3.2022.

Invited lecturer
– Series of four introductory lectures to logic at the University of Milano-Bicocca (together with Riccardo Camerlo), Milan, May 2016.
– Course on set theory at the "Scuola Estiva di Logica 2016", Gargnano (Bs), 22–27.8.2016.
– "Bravinricerca" (addressed to high school students interested in scientific thematics), Liceo Giolitti-Gandino, Bra (To), 17.3.2017.
– Series of four introductory lectures to logic at the University of Milano-Bicocca (together with Riccardo Camerlo), Milan, May 2019.
– Course "La logica del punto di vista matematico" at the "IANUA Summer School 2019", Genoa, 11.7.2019.

Researchers' Night
Since 2019, I am the coordinator of the activities of the Department of Mathematics of the University of Turin within the Researchers' Night, which takes place annually and is addressed to all citizens.

World Logic Day
Since 2023, every year I organize an event addressed to high school students on the occasion of the World Logic Day, an international day proclaimed by UNESCO in association with CIPSH. The event usually involves more than 150 participants.

Additionally, I gave more than 15 talks in about 10 high schools in North Italy to popularize Mathematics and Mathematical Logic.

ADMINISTRATION AND ADDITIONAL INFORMATION

Since 2023 I am a member of the **scientific board of the Ph.D. in Mathematics** of the University of Turin.

Since 2020 I am a member of the **scientific board of the Ph.D. in Pure and Applied Mathematics**, jointly managed by a Consortium among the University of Turin, the Polytechnic of Turin, and the Istituto Nazionale di Alta Matematica "F. Severi" (INdAM), Rome.

Since 2015 I am serving as a member of the **Research Committee** of the Mathematics Department of the University of Turin.

I regularly **review applications for research projects** funded by the FWF Wissenshaftsfonds - Austrian Science Fund in the field of mathematical logic.

I have been a member of various **hiring committees** for post-doc and Ph.D. positions in Italy.

I am currently a member of the following mathematical organizations:

ASL (*Association for Symbolic Logic*), ESTS (*European Set Theory Society*),
AILA (*Associazione Italiana di Logica e sue Applicazioni*), UMI (*Unione Matematica Italiana*),
INdAM (*Istituto Nazionale di Alta Matematica*, gruppo GNSAGA).

Annex A: Papers and publications

Published

1. *A new characterization of the Baire class 1 functions*, Real Analysis Exchange **34** (2008/2009), no. 1, 29–48 (20 pages).

2. *Borel-amenable Reducibilities for Sets of Reals*, Journal of Symbolic Logic **74** (2009), no. 1, 27–49 (23 pages).

3. *Baire reductions and good Borel reducibilities*, Journal of Symbolic Logic **75** (2010), no. 1, 323–345 (23 pages).

4. *A new proof of a theorem of Jayne and Rogers*, joint work with B. Semmes, Real Analysis Exchange **35** (2010), no. 1, 195–203 (9 pages).

5. *Beyond Borel-amenability: Scales and Superamenable Reductions*, Annals of Pure and Applied Logic **161** (2010), no. 7, 829–836 (8 pages).

6. *Game representations of classes of piecewise definable functions*, Mathematical Logic Quarterly **57** (2011), no. 1, 95–112 (18 pages).

7. *Analytic equivalence relations and bi-embeddability*, joint work with S. D. Friedman, Journal of Symbolic Logic **76** (2011), no. 1, 243–266 (24 pages).

8. *On the complexity of the relations of isomorphism and bi-embeddability*, Proceedings of the American Mathematical Society **140** (2012), no. 1, 309-323 (15 pages).

9. *Invariantly universal analytic quasi-orders*, joint work with R. Camerlo and A. Marcone, Transactions of the American Mathematical Society **365** (2013), no. 4, 1901–1931 (31 pages).

10. *Some observations on "A new proof of a theorem of Jayne and Rogers"*, joint work with M. Kačena and Brian Semmes, Real Analysis Exchange **38** (2012/2013), no. 1, 121–132 (12 pages).

11. *The descriptive set-theoretical complexity of the embeddability relation on models of large size*, Annals of Pure and Applied Logic **164** (2013), 1454–1492 (39 pages).

12. *On the structure of finite level and ω-decomposable Borel functions*, Journal of Symbolic Logic **78** (2013), no. 2, 1257–1287 (31 pages).

13. *Bad Wadge-like reducibilities on the Baire space*, Fundamenta Mathematicae **224** (2014), no. 1, 67–95 (29 pages).

14. *Lipschitz and uniformly continuous reducibilities on ultrametric Polish spaces*, joint work with P. Schlicht, in: V. Brattka, H. Diener, and D. Spreen (Eds.), *Logic, Computation, Hierarchies*, Ontos Mathematical Logic **4**, de Gruyter, Berlin, Boston, 2014, pp. 213–258 (46 pages).

15. *Wadge-like reducibilities on arbitrary quasi-Polish spaces*, joint work with Philipp Schlicht and Victor Selivanov, Mathematical Structures in Computer Science **25** (2015), Special Issue 08, 1705–1754 (50 pages).

16. *The Hurewicz dichotomy for generalized Baire spaces*, joint work with P. Lücke and P. Schlicht, Israel Journal of Mathematics **216** (2016), no. 2, 973–1022 (50 pages).

17. *Can we classify complete metric spaces up to isometry?*, Bollettino dell'Unione Matematica Italiana **10** (2017), no. 3, 369–410 (42 pages).

18. *Universality of group embeddability*, joint work with F. Calderoni, Proceedings of the American Mathematical Society **146** (2018), no. 4, 1765–1780 (16 pages).

19. *On isometry and isometric embeddability between ultrametric Polish spaces*, joint work with R. Camerlo and A. Marcone, Advances in Mathematics **329** (2018), 1231–1284 (53 pages).

20. *Uncountable structures are not classifiable up to bi-embeddability*, joint work with H. Mildenberger and F. Calderoni, Journal of Mathematical Logic **20** (2020), no. 1, Paper No. 2050001 (49 pages).

21. *Polish metric spaces with fixed distance set*, joint work with R. Camerlo and A. Marcone, Annals of Pure and Applied Logic **171** (2020), no. 10, Paper No. 102832 (25 pages).

22. *A descriptive Main Gap Theorem*, joint work with F. Mangraviti, Journal of Mathematical Logic **21** (2021), no. 1, Paper No. 2050025 (40 pages).

23. *Souslin quasi-orders and bi-embeddability of uncountable structures*, joint work with A. Andretta, Memoirs of the American Mathematical Society **277** (2022), no. 1365 (196 pages).

24. *Classification problems from the descriptive set theoretical perspective*, accepted for publication in the collection *Research Trends in Contemporary Logic*, edited by Melvin Fitting, Dov Gabbay, Massoud Pourmahdian, Adrian Rezus, and e Ali Sadegh Daghighi (26 pages).

25. *Anti-classification results for groups acting freely on the line*, joint work with F. Calderoni, D. Marker and A. Shani, Advances in Mathematics **418** (2023), Paper No. 108938 (45 pages).

26. *Generalized Polish spaces at regular uncountable cardinals*, joint work with C. Agostini and P. Schlicht, Journal of the London Mathematical Society **108** (2023), no. 5, 1886–1929 (44 pages).

27. *A classification of the Wadge hierarchies on zero-dimensional Polish spaces*, joint work with R. Carroy and S. Scamperti, accepted for publication on the Journal of Symbolic Logic (2023) (30 pages).

Preprints

28. *Convex embeddability and knot theory*, joint work with M. Iannella, A. Marcone and V. Weinstein, submitted, (46 pages, arXiv:2309.09910).

29. *Piecewise convex embeddability on linear orders*, joint work with M. Iannella, A. Marcone and V. Weinstein, submitted, (34 pages, arXiv:2312.01198).

Theses

1. *Metodi effettivi in teoria degli insiemi: la topologia di Gandy-Harrington*, degree thesis, University of Turin, 2003, advisor: A. Andretta (University of Turin);

2. *General reducibilities for sets of reals*, Ph.D. thesis, Polytechnic of Turin, 2007, advisors: A. Andretta (University of Turin) and R. Camerlo (Polytechnic of Turin);

3. *Hierarchies of complexity for sets, functions, and binary relations*, Habilitationsschrift (thesis for obtaining the German habilitation), Albert-Ludwigs-Universität Freiburg, 2014.

Annex B: Talks and conferences

(in reverse chronological order)

Invited talks at conferences and meetings

1. *On the structure of graph homomorphism*, 17th International Luminy Workshop in Set Theory, CIRM, Luminy, 12.10.2023;

2. *Borel complexity of graph homomorphism*, Descriptive Set Theory & Dynamics, Warsaw, 24.8.2023;

3. *Universality of graph homomorphisms: one construction to prove them all*, The First Gdańsk Logic Conference, Gdańsk, 6.5.2023;

4. *Variations on Borel reducibility*, Invariant descriptive computability theory, American Institute of Mathematics, California (USA), 8.11.2022;

5. *Describing the Wadge hierarchy on arbitrary zero-dimensional Polish spaces*, Fourth Workshop on Digitalization and Computable Models, Novosibirsk (via Zoom), 28.10.2022;

6. *Classificare l'inclassificabile: come si dimostra l'impossibile?*, Seminari del Centenario UMI, Turin, 29.9.2022;

7. *(Generalized) Descriptive Set Theory meets Model Theory*, Model Theoretic Logics and their Frontiers, Hungary (via Zoom), 14.1.2022;

8. *Generalized descriptive set theory for all cofinalities, and some applications* , Logic Colloquium 2021, Poznań, 22.7.2021;

9. *A descriptive main gap theorem*, Fifth Workshop on Generalised Baire Spaces, Bristol, 4.2.2020;

10. *A descriptive main gap theorem*, SQuID 2019: a Short, Quite Informal Day in logic, Genoa, 18.12.2019;

11. *Towards the "right" generalization of descriptive set theory to uncountable cardinals*, 15th International Workshop in Set Theory, CIRM, Luminy, 26.9.2019;

12. *Quanti sono? Contare e classificare*, Educare alla razionalità: L'insegnamento della matematica e della logica nella scuola secondaria, Turin, 22.5.2019;

13. *Classical descriptive set theory, generalized descriptive set theory, and* I0, Set theory today: A conference in honor of Georg Cantor, Kurt Gödel Research Center, Vienna, 11.9.2018;

14. *Generalized descriptive set theory under* I0, KNAW Academy Colloquium "Generalised Baire Spaces", Amsterdam, 23.8.2018;

15. *Polish metric spaces with fixed distance set*, Descriptive set theory conference, Bernoully center (EPFL), Lausanne, 21.6.2018;

16. *Generalized descriptive set theory and classification*, 14th International Workshop in Set Theory, CIRM, Luminy, 11.10.2017;

17. *Borel reducibility and its relatives*, XXVI incontro dell'AILA, Padua, 27.9.2017;

18. *When Borel reducibility is not enough...*, SGSLPS 2017 Spring meeting on "Borel Reducibility of Equivalence Relations", Lausanne, 29.5.2017;

19. *Generalized descriptive set theory and the classification of uncountable structures and non-separable spaces* (Tutorial), Bonn Set Theory Workshop 2016: Generalized Baire spaces, Hausdorff Research Institute for Mathematics (HIM), University of Bonn, 21–22.12.2016;

20. *On isometry and isometric embeddability between (ultra)metric Polish spaces*, Descriptive Set Theory in Paris, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, 7.12.2015;

21. *On the classification of separable complete metric spaces up to isometry*, XX Congresso dell'Unione Matematica Italiana, University of Siena, 8.9.2015;

22. *The Hurewicz dichotomy for generalized Baire spaces*, Amsterdam Workshop on Set Theory 2014, Amsterdam, 3.11.2014;

23. *Towards a descriptive set theory for computer science*, INFTY Final Conference, Hausdorff Research Institute for Mathematics (HIM), University of Bonn, 4.3.2014;

24. *On the descriptive set-theoretical complexity of the embeddability relation between uncountable models*, Set Theory Workshop (ID 1403), Mathematisches Forschungsinstitut Oberwolfach, Germany, 15.1.2014;

25. *Lipschitz and uniformly continuous reducibilities*, Descriptive Set Theory in Paris, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, 17.12.2013;

26. *Wadge-like reducibilities on arbitrary quasi-Polish spaces: a survey*, Seminar "Duality in Computer Science", Leibniz-Zentrum für Informatik, Dagstuhl, Germany, 1.8.2013;

27. *On the invariant universality property*, Sy David Friedman's 60th Birthday Conference, Kurt Gödel Research Center, Vienna, 8.7.2013;

28. *On the complexity of the embeddability relation between uncountable models*, 6th Young Set Theory Workshop, Santuario di Oropa, Italy, 13.6.2013;

29. *On the structure of finite level and ω-decomposable Borel functions*, Descriptive Set Theory in Paris, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, 11.12.2012;

30. *κ-Souslin quasi-orders and definable cardinality*, Descriptive Set Theory in Paris, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, 12.12.2011;

31. *Reduction games and reducibilities for sets of reals*, Seminar "Computing with Infinite Data: Topological and Logical Foundations", Leibniz-Zentrum für Informatik, Dagstuhl, Germany, 13.10.2011;

32. *Quasi-ordini κ-Souslin*, XIX Congresso dell'Unione Matematica Italiana, Alma Mater Studiorum — Università di Bologna, 15.9.2011 (selected as speaker of a 30-minutes-communication in the section of logic as best young Italian logician);

33. *The descriptive set theoretical complexity of the embeddability relation on uncountable models*, Logic Colloquium 2011, Barcelona, 13.7.2011;

34. *Embeddability as a "universal" quasi-order*, RaTLoCC 2011 — Ramsey Theory in Logic, Combinatorics and Complexity, Bertinoro, Italy, 27.5.2011;

35. *Variations on reducibilities for analytic equivalence relations*, Informal Meeting in Set Theory, University of Turin, 13.11.2010;

36. *Isomorphism and bi-embeddability*, Descriptive Set Theory in Paris, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, 14.12.2009;

37. *A universality property for analytic equivalence relations and quasi-orders*, ESI Workshop on Large Cardinals and Descriptive Set Theory, ESI, Vienna, 23.6.2009;

38. *Analytic equivalence relations and bi-embeddability*, Descriptive Set Theory in Paris, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, 15.12.2008;

39. *A dichotomy theorem for Borel reducibilities*, Set Theory Meeting in Amsterdam in August 2007, ILLC — University of Amsterdam, 13.8.2007;

40. *General Reducibilities for Sets of Reals*, Set Theory and its neighbours — Analysis and Set Theory II, University College of London, 20.4.2007;

41. *La complessità degli insiemi di reali: riduzioni Boreliane*, IIIM — Incontro Italiano Insiemi e Modelli, University of Turin, 4.4.2007.

Invited research seminars in other universities

42. *Universality of graph homomorphisms: one construction to prove them all*, Nankai Logic Colloquium (via Zoom), 16.12.2022;

43. *Generalized Polish spaces at regular uncountable cardinals*, Barcelona Set Theory Seminar, 15.12.2021;

44. *Arcs, knots, and convex embeddability*, Caltech logic seminars, California Institute of Technology (Pasadena), 10.5.2021;

45. *Anti-classification results for Archimedean groups*, Séminaire de Logique Lyon-Paris, 30.9.2020;

46. *A descriptive main gap*, Logic seminar, University of Münster, 7.6.2019;

47. *Ultrametric spaces, isometry, and isometry groups*, Oberseminar Mathematische Logik, Albert-Ludwigs-Universität, Freiburg im Breisgau, 17.5.2017;

48. *Ultrametric spaces, isometry, and isometry groups*, KGRC Seminar talks, University of Vienna, 30.3.2017;

49. *Sul problema dell'isomorfismo tra spazi di funzioni di Baire classe α*, University of Turin, 21.2.2014;

50. *Uniformly continuous and Lipschitz reducibilities on ultrametric Polish spaces*, Oberseminar Mathematische Logik, Rheinische Friedrich-Wilhelms-Universität, Bonn, 25.11.2013;

51. *Wadge-like reducibilities on ultrametric Polish spaces*, Seminarium Teoria Mnogości (Set Theory Seminar), University of Warsaw, 15.5.2013;

52. *The embeddability relation on models of size κ is (strongly) invariantly universal when $\kappa^{<\kappa} = \kappa$*, Oberseminar Mathematische Logik, Rheinische Friedrich-Wilhelms-Universität, Bonn, 17.12.2012;

53. *Gerarchia di Wadge (e sue varianti) su spazi quasi-Polacchi*, University of Turin, 18.11.2011;

54. *Invariantly universal analytic quasi-orders*, KGRC Seminar talks, University of Vienna, 14.10.2010;

55. *Quasi-ordini analitici invariantemente universali*, Seminars of the DiMI, University of Udine, 3.6.2010;

56. *Quasi-ordini invariantemente universali*, University of Turin, 14.5.2010;

57. *Relazioni di equivalenza analitiche e bi-immergibilità*, Seminars of the DiMI, University of Udine, 22.4.2009;

58. *Analytic equivalence relations and bi-embeddability*, University of Turin, 28.11.2008;

59. *Degree-structures induced by good Borel reducibilities*, Seminar of the "Equipe d'Analyse Fonctionnelle", Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, 20.5.2008;

60. *La complessità degli insiemi di reali: giochi e riduzioni*, Seminars of the DiMI, ngitaUniversity of UdineUniversità di Udine, 19.12.2006.

Other (contributed) talks and seminars

61. *Sulle relazioni di isometria e immersione isometrica tra spazi Polacchi (ultra)metrici*, Advanced seminars of the logic group, University of Turin, 2.3.2015–4.5.2015;

62. *Introduction to Wadge theory*, tutorial in preparation for the Workshop on Wadge theory and automata, University of Turin, 26.1.2015;

63. *All automorphisms of the Calkin algebra are inner (by I. Farah)*, wissenschaftlichen Vortrag for the German Habilitation, Albert-Ludwigs-Universität, Freiburg im Breisgau, 10.7.2014;

64. *The Hurewicz dichotomy for generalized Baire spaces*, AILA — XXV Incontro di Logica, Scuola Normale Superiore, Pisa, 14.4.2014;

65. *Bad Wadge-like reducibilities on the Baire space*, Oberseminar Mathematische Logik, Albert-Ludwigs-Universität, Freiburg im Breisgau, 5.2.2014;

66. *On the invariant universality property*, Mathematische Kolloquium, Vorstellungsvortrag for the German Habilitation, Albert-Ludwigs-Universität, Freiburg im Breisgau, 6.6.2013;

67. *Wadge-like reducibilities on arbitrary (quasi-)Polish spaces*, Oberseminar Mathematische Logik, Albert-Ludwigs-Universität, Freiburg im Breisgau, 5.12.2012;

68. *On an old question of Lusin concerning countably continuous Borel functions*, Oberseminar Mathematische Logik, Albert-Ludwigs-Universität, Freiburg im Breisgau, 23.5.2012;

69. *The descriptive set-theoretical complexity of the embeddability relation*, Oberseminar Mathematische Logik, Albert-Ludwigs-Universität, Freiburg im Breisgau, 7.12.2011;

70. *Sulla complessità delle relazioni di isomorfismo e bi-immergibilità*, AILA — XXIV Incontro di Logica, Bologna, 2.2.2011;

71. *On the complexity of the relations of isomorphism and bi-embeddability*, KGRC Seminar talks, University of Vienna, 28.1.2010;

72. *Analytic equivalence relations and bi-embeddability*, KGRC Seminar talks, University of Vienna, 4.12.2008;

73. *Good Borel reducibilities for sets of reals*, KGRC Seminar talks, University of Vienna, 17.4.2008;

74. *Una congettura di dicotomia per le riduzioni Boreliane*, AILA — XXIII Incontro di Logica, Genoa, 23.2.2008;

75. *Generalizations of Wadge degrees*, KGRC Seminar talks, University of Vienna, 11.10.2007;

76. *General Reducibilities for Sets for Reals*, contributed talk for the Logic Colloquium 2007, Wrocław, Poland, 15.7.2007.

Annex C: Participation in conferences

(in reverse chronological order)

Conferences with only invited scholars

1. *17th International Workshop in Set Theory*, CIRM (Luminy), France, 9–13.10.2023;

2. *Invariant descriptive computability theory*, American Institute of Mathematics, California, USA, 7–11.11.2022;

3. *Interactions between Descriptive Set Theory and Smooth Dynamics*, Banff International Research Station workshop, Banff (Alberta), Canada, 27.3.2022–1.4.2022;

4. *Descriptive Set Theory and Computable Topology*, Leibniz-Zentrum für Informatik, Schloss Dagstuhl, Germany, 14–19.11.2021;

5. *16th International Workshop in Set Theory*, CIRM (Luminy), France, 13–17.9.2021;

6. *15th International Workshop in Set Theory*, CIRM (Luminy), France, 23–27.9.2019;

7. *14th International Workshop in Set Theory*, CIRM (Luminy), France, 9–13.10.2017;

8. *Descriptive Set Theory in Turin*, University of Turin, Italy, 6–8.9.2017;

9. *Current Trends in Descriptive Set Theory*, Erwin Schrödinger International Institute for Mathematical Physics, Vienna, Austria, 12–16.12.2016;

10. *Bonn Set Theory Workshop 2016: Generalized Baire spaces*, Hausdorff Research Institute for Mathematics (HIM), University of Bonn, Germany, 21–22.12.2016 (invited speaker for a tutorial);

11. *Descriptive Set Theory in Paris*, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, France, 7–8.12.2015;

12. *Descriptive Set Theory in Paris*, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, France, 8–9.12.2014;

13. *Set Theory Workshop* (ID 1403), Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, 12–18.1.2014;

14. *Descriptive Set Theory in Paris*, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, France, 16–17.12.2013;

15. *Duality in Computer Science*, Leibniz-Zentrum für Informatik, Schloss Dagstuhl, Germany, 29.7.2013–2.8.2013;

16. *Sy David Friedman's 60th Birthday Conference*, Kurt Gödel Research Center, Vienna, Austria, 8–12.7.2013 (invited speaker);

17. *Descriptive Set Theory in Paris*, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, France, 10–11.12.2012;

18. *Descriptive Set Theory in Paris*, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, France, 12–13.12.2011;

19. *Computing with Infinite Data: Topological and Logical Foundations*, Leibniz-Zentrum für Informatik, Schloss Dagstuhl, Germany, 9–14.10.2011;

20. *RaTLoCC 2011 — Ramsey Theory in Logic*, Combinatorics and Complexity, University Residential Center, Bertinoro (Forlì-Cesena), Italy, 22–27.5.2011 (invited speaker);

21. *Descriptive Set Theory in Paris*, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, France, 13–14.12.2010;

22. *Descriptive Set Theory in Paris*, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, France, 14–15.12.2009;

23. *Second European Set Theory Meeting: in honor of Ronald Jensen*, Mathematical Research and Conference Center, Będlewo, Poland, 5–10.7.2009;

24. *ESI Workshop on Large Cardinals and Descriptive Set Theory*, Erwin Schrödinger International Institute for Mathematical Physics, Vienna, Austria, 14–27.6.2009 (invited speaker);

25. *Descriptive Set Theory in Paris*, Institute of Mathematics of Jussieu, Pierre and Marie Curie University, Paris VI, France, 15–16.12.2008.

Other conferences and meetings

26. *XXII Congresso dell'Unione Matematica Italiana*, University of Pisa, Italy, 4–9.9.2023;

27. *Descriptive Set Theory & Dynamics*, part of the thematic semester "STRUCTURES", Warsaw, Poland, 21–25.8.2023 (invited speaker);

28. *The First Gdańsk Logic Conference*, Gdańsk, Poland, 5–7.5.2023 (invited speaker);

29. *Fourth Workshop on Digitalization and Computable Models*, Sobolev Institute of Mathematics (Novosibirsk, Russia) and Kazan Federal University (Russia) via Zoom, 24–29.10.2022 (invited speaker);

30. *Model Theoretic Logics and their Frontiers*, Hungary (via Zoom), 14–16.1.2022 (invited speaker);

31. *Logic Colloquium 2021*, Poznań, Poland, 19–24.7.2021 (invited plenary speaker);

32. *Fifth Workshop on Generalised Baire Spaces*, University of Bristol, England, 2–4.2.2020 (invited speaker);

33. *SQuID 2019: a Short, Quite Informal Day in logic*, University of Genoa, Italy, 18.12.2019 (invited speaker);

34. *XXI Congresso dell'Unione Matematica Italiana*, University of Pavia, Italy, 2–7.9.2019;

35. *Educare alla razionalità. L'insegnamento della matematica e della logica nella scuola secondaria*, University of Turin, Italy, 22–23.5.2019 (invited speaker);

36. *Set theory today: A conference in honor of Georg Cantor*, Kurt Gödel Research Center, Vienna, Austria, 10–14.9.2018 (invited speaker);

37. *Generalised Baire spaces*, Amsterdam, The Netherlands, 23–24.8.2018 (invited speaker);

38. *Descriptive set theory conference*, Bernoulli center (EPFL), Lausanne, Switzerland, 18–22.6.2018 (invited speaker);

39. *IIIM 2018 — Incontro Italiano Insiemi e Modelli 2018*, University of Turin, Italy, 21–23.2.2018;

40. *XXVI incontro dell'AILA*, Padua Italy, 25–28.9.2017 (invited speaker as winner of the Paolo Gentilini prize 2017);

41. *SGSLPS 2017 Spring meeting on "Borel Reducibility of Equivalence Relations"*, Lausanne, Switzerland, 29.5.2017 (invited speaker);

42. *P.O.I Workshop in Pure and Descriptive Set Theory*, University of Turin, Italy, 25–26.9.2015;

43. *XX Congresso dell'Unione Matematica Italiana*, University of Siena, Italy, 7–12.9.2015 (invited plenary speaker for a short talk);

44. *Workshop on Wadge theory and automata*, University of Turin, Italy, 28.1.2015;

45. *Amsterdam Workshop on Set Theory 2014 — Generalized Baire Space*, Amsterdam, The Netherlands, 3–4.11.2014 (invited speaker);

46. *Set Theory Workshop in Freiburg*, Freiburg im Breisgau, Germany, 10–13.6.2014;

47. *AILA — XXV Incontro di Logica*, Scuola Normale Superiore, Pisa, Italy, 14–17.4.2014;

48. *INFTY Final Conference*, Hausdorff Research Institute for Mathematics (HIM), University of Bonn, Germany, 4–7.3.2014 (invited speaker);

49. *6th Young Set Theory Workshop*, Santuario di Oropa, Italy, 10–14.6.2013 (invited speaker);

50. *XIX Congresso dell'Unione Matematica Italiana*, Mathematics Department, Alma Mater Studiorum — University of Bologna, Italy, 12–17.9.2011 (selected as speaker of a 30-minutes-communication in the section of logic as best young Italian logician);

51. *Logic Colloquium 2011*, Barcelona, Spain, 11–16.7.2011 (invited speaker at the special session in Set Theory);

52. *AILA — XXIV Incontro di Logica*, Bologna, Italy, 2–4.2.2011;

53. *Informal Meeting in Set Theory*, University of Turin, Italy, 13.11.2010 (invited speaker);

54. *AILA — XXIII Incontro di Logica*, Genoa, Italy, 20–23.2.2008;

55. *Set Theory Meeting in Amsterdam in August 2007*, ILLC — University of Amsterdam, the Netherlands, 13.8.2007 (invited speaker);

56. *Logic Colloquium 2007*, Wrocław, Poland, 14–19.7.2007;

57. *Set Theory and its neighbours — Analysis and Set Theory II*, University College of London, England, 20.4.2007 (invited speaker);

58. *IIIM — Incontro Italiano Insiemi e Modelli*, University of Turin, Italy, 2–4.4.2007;

59. *Meeting on Set Theory and Analysis*, University of Turin, Italy, 10–12.7.2006;

60. *Syzygy 2005 — an international Italian Conference in Commutative Algebra and Algebraic Geometry*, Polytechnic of Turin, Italy, 18–20.2.2005.

Annex D: Teaching activity

(in reverse chronological order)

University of Turin

From 2014 to 2017 I had a teaching load of 90 hours per year. Since 2017, I have a regular teaching load of more than 120 hours per year.

2023-24
– Course *Topics in Mathematical Logic*, Ph.D. in Mathematics
– Course *Descriptive Set Theory*, Master degree in Mathematics
– Course *Mathematical Logic 1*, Degree in Mathematics (first level)
– Course *Mathematics*, Degree in Chemistry for sustainable manufacturing (first level)

2022-23
– Course *Topics in Mathematical Logic*, Master degree in Mathematics
– Course *Mathematical Logic 1*, Degree in Mathematics (first level)
– Course *Logic*, Degree in Computer Science (first level)

2021-22
– Course *Infinite combinatorics, Banach spaces, and the first Baire class*, Ph.D. in Pure and Applied Mathematics
– Course *Topics in Mathematical Logic*, Master degree in Mathematics
– Course *Elements of Mathematical Logic*, Master degree in Mathematics
– Course *Logic*, Degree in Computer Science (first level)

2020-21
– Course *Topics in Mathematical Logic*, Master degree in Mathematics
– Course *Elements of Mathematical Logic*, Master degree in Mathematics
– Course *Discrete mathematics and logic*, Degree in Computer Science (first level)

2019-20
– Course *Generalized descriptive set theory*, Ph.D. in Pure and Applied Mathematics
– Course *Topics in Mathematical Logic*, Master degree in Mathematics
– Course *Elements of Mathematical Logic*, Master degree in Mathematics
– Course *Discrete mathematics and logic*, Degree in Computer Science (first level)

2018-19
– Course *Topics in Mathematical Logic*, Master degree in Mathematics
– Course *Discrete mathematics and logic*, Degree in Computer Science (first level)
– Course *Mathematics 2*, Degree in Chemistry (first level)

2017-18
– Course *Topics in Mathematical Logic*, Master degree in Mathematics
– Course *Discrete mathematics and logic*, Degree in Computer Science (first level)
– Course *Mathematics 2*, Degree in Chemistry (first level)

2016-17
– Course *Topics in Mathematical Logic*, Master degree in Mathematics
– Course *Discrete mathematics and logic*, Degree in Computer Science (first level)

2015-16
– Course *Topics in Mathematical Logic*, Master degree in Mathematics
– Course *Elements of Mathematical Logic*, Master degree in Mathematics
– Course *Discrete mathematics and logic*, Degree in Computer Science (first level)

2014-15
– Course *Topics in descriptive set theory*, Ph.D. in Mathematics
– Course *Topics in Mathematical Logic*, Master degree in Mathematics
– Course *Elements of Mathematical Logic*, Degree in Mathematics (first level)

Albert-Ludwigs-Universität Freiburg

Regular teaching load of more than 80 hours per year.

2013-14
– Seminar *Game Theory*, Bachelor and master degree in Mathematics
– Course *Mathematische Logik* (teaching assistant), Bachelor degree in Mathematics
– Course *Logik für Studierende der Informatik* (teaching assistant), Bachelor degree in Computer Science

2012-13
– Course *Descriptive Set Theory*, Bachelor and master degree in Mathematics
– Seminar *Game Theory*, Bachelor and master degree in Mathematics
– Proseminar *Kombinatorik und Mengenlehre* (teaching assistant), Bachelor degree in Mathematics

2011-12
– Course *Descriptive Set Theory*, Bachelor and master degree in Mathematics
– Seminar *Forcingtechniken* (teaching assistant), Bachelor degree in Mathematics
– Seminar *Einbettungen und bessere Quasiordnungen* (teaching assistant), Bachelor degree in Mathematics
– Course *Logik für Studierende der Informatik* (teaching assistant), Bachelor degree in Computer Science

2010-11
– Oberseminar *Mengenlehre und Modelltheorie* (teaching assistant), Master degree and Ph.D. in Mathematics
– Course *Axiomatische Mengenlehre* (teaching assistant), Bachelor and master degree in Mathematics
– Seminar *Borelmengen und Hierarchien* (teaching assistant), Bachelor degree in Mathematics
– Seminar *Mengenlehre* (teaching assistant), Bachelor degree in Mathematics

Polytechnic of Turin

2006-07
– Course *Mathematical Logic*, First level degree in Computer Engineering, campus of Ivrea
– Course *Mathematical Logic* (teaching assistant), First level degree in Computer Engineering, campus of Turin

2005-06
– Course *Mathematical Logic* (teaching assistant), First level degree in Computer Engineering, campus of Ivrea
– Course *Mathematical Logic* (teaching assistant), First level degree in Computer Engineering, campus of Turin

2004-05
– Course *Mathematical Logic* (teaching assistant), First level degree in Computer Engineering, campus of Ivrea
– Course *Mathematical Logic* (teaching assistant), First level degree in Computer Engineering, campus of Turin

2003-04
– Course *Discrete Mathematics* (teaching assistant), Second level degree in Computer Engineering, campus of Turin