



Matteo ACCLAVIO

Curriculum Vitae et Studiorum

Personal informations

Name Matteo
Family name ACCLAVIO
Place and date of birth Roma (Italy), July 6th, 1987
Nationality Italian
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Current position

since 01/2024 **Lecturer in Computer Science (5 months, ongoing)**, University of Sussex

Professional experiences

01/2023 → **Postdoc in theory of programming languages (12 months)**, University of Southern Denmark, research project: "X-IDF: Explainable Internet Data Flows"
01/2024
6/2022 → **Postdoc in formal verification (12 months)**[Assegno di ricerca], Università Roma Tre, research grant title: "Logical Methods and Formal Verification of Cryptographic Algorithms"
01/2023
6/2020 → **Postdoc in cybersecurity (24 months)**, University of Luxembourg, team: "Security and Trust of Software Systems"
05/2022
12/2019 → **Research engineer (6 months)**, Télécom SudParis and LIX-École polytechnique, research grant title: "Linking Focusing and Automated Theorem Proving"
5/2020
12/2019 → **Adjunct Professor (6 months)**, American University of Paris, Course: "Intro to computer programming II" (Object Oriented Programming)
5/2020
1/2019 → **Postdoc in pedagogy of mathematics (12 months)**[Assegno di ricerca], Università Roma Tre, research grant title: "Research laboratories for the renewal of mathematical teaching"
12/2019
10/2017 → **Postdoc in proof theory (14 months)**, Inria Saclay, France, research grant title: "Structural and Computational Proof Theory"
11/2018
01/2017 → **Assistant lecturer in mathematics (6 months)**[ATER plein temps], Université Caen Normandie, France
06/2017

- 09/2015 → **Assistant lecturer in mathematics (12 months)**[ATER plein temps], Aix-Marseille Université, France
 08/2016
 10/2012 → **Ph.D with teaching duties (35 months)**, Aix-Marseille Université, France
 08/2015

Formation

- 10/2012 → **Ph.D. in Mathematics (50 months)**
 12/2016 Supervisor : Yves Lafont (I2M, Institut de Mathématiques de Marseille)
 Titre : *String diagram rewriting: applications in category and proof theory*.
 Jury members: Willem Heijltjes (referee), Samuel Mimram (referee), Vito Michele Abrusci, Pierre-Louis Curien, Miriam Quatrini, Luigi Santocanale, Lorenzo Tortora De Falco.
- 02/2011 → **Franco-italian master curricula in logic (24 months)**, *Università degli studi Roma Tre/Università d'Aix-Marseille II*, (Roma/Marseille):
 02/2013 – **Master MDFI: “Mathématiques Discrètes et Fondements de l’Informatique” (Master degree in discrete mathematics and foundations of computer science)** (10/2011 – 06/2012), Université d’Aix-Marseille II, Marseille
 Master thesis: “Comparing various proofs of the Novikov-Boone theorem based on rewriting”
 Supervisors: Lorenzo Tortora de Falco / Yves Lafont
 Final grade: 14,44/20.
- **Laurea magistrale in Matematica (Master degree in Mathematics)** (02/2011 – 02/2013), Università degli studi Roma Tre, Roma
 Master thesis: “Undecidability of the word problem for groups: the point of view of rewriting theory”
 Supervisors : Lorenzo Tortora de Falco / Yves Lafont
 Final grade : 110/110 *cum laude*.
- 09/2006 → **Laurea Triennale in Matematica (Bachelor degree in Mathematics, 51 months)**, *Università degli studi Roma Tre*, Roma.
 02/2011 Bachelor thesis: “Algoritmi efficienti per la soluzione del problema Clique”
 [Efficient algorithms for the clique problem]
 Supervisor : Professor Marco Liverani
 Final grade : 98/110 .

Publications

Note that the research in my field is driven by conference publications.

Conferences evaluate submissions based on peer-reviewed reports.

In the following list, publications in the top 20% venues (according to CORE and Scimago) are marked by a ★.

Journals

- ★ 10/2022 Matteo Acclavio, Ross Horne, Lutz Straßburger. *An Analytic Propositional Proof System on Graphs*. Logical Methods in Computer Science <https://arxiv.org/abs/2012.01102>
- ★ 05/2018 Matteo Acclavio. *Proof diagrams for multiplicative linear logic: syntax and semantics*. Journal of Automated Reasoning <https://doi.org/10.1007/s10817-018-9466-4>

Conference proceedings

- ★ to appear Matteo Acclavio. *Sequent Systems on Undirected Graphs*. International Joint Conference on all aspects of Automated Reasoning (IJCAR2024).
- to appear Matteo Acclavio, Roberto Maieli. *Logic Programming with Multiplicative Structures*.
- 02/2024 Matteo Acclavio, Gianluca Curzi, Giulio Guerrieri. *Infinitary cut elimination via finite approximations*. Computer Science Logic (CLS2024). <https://drops.dagstuhl.de/entities/document/10.4230/LIPIcs.CSL.2024.8>
- 09/2023 Matteo Acclavio, Davide Catta. *Lorenzen-style strategies as proof-search strategies*. European Conference on Multi-Agent Systems (EUMAS2023). https://link.springer.com/chapter/10.1007/978-3-031-43264-4_10

- 09/2023 Matteo Acclavio, Davide Catta, Federico Olimpieri. *Canonicity of Proofs in Constructive Modal Logic*. Tableaux2023. https://link.springer.com/chapter/10.1007/978-3-031-43513-3_19
- 08/2022 Matteo Acclavio, Lutz Straßburger. *Combinatorial Proofs for Constructive Modal Logic*. Advanced in Modal Logic (AiML2022). <http://matteoacclavio.com/Archive/AiML2022.pdf>
- ★ 06/2022 Matteo Acclavio, Ross Horne, Sjouke Mauw, Lutz Straßburger. *A Graphical Proof Theory of Logical Time*. 7th International Conference on Formal Structures for Computation and Deduction (FSCD2022). <https://drops.dagstuhl.de/opus/volltexte/2022/16303/>
- 12/2021 Matteo Acclavio. *Exponentially Handsome Proof Nets and Their Normalization*. Postproceeding of Linearity & TLLA 2020. <https://doi.org/10.4204/eptcs.353.1>
- 12/2021 Matteo Acclavio, Giulio Guerrieri. *A Deep Inference System for Differential Linear Logic* (extended version). Postproceeding of Linearity & TLLA 2020. <https://doi.org/10.4204/eptcs.353.2>
- 09/2021 Matteo Acclavio, Davide Catta, Lutz Straßburger. *Game Semantics in Constructive Modal Logic*. Tableaux 2021. https://doi.org/10.1007/978-3-030-86059-2_25
- ★ 07/2020 Matteo Acclavio, Ross Horne, Lutz Straßburger. *Logic Beyond Formulas: A Proof System on Graphs*. ACM/IEEE Symposium on Logic in Computer Science (LICS2020). <https://hal.inria.fr/hal-02560105>
- 01/2020 Matteo Acclavio, Roberto Maieli. *Generalized Connectives for Multiplicative Linear Logic*. Computer Science Logic 2020 (CSL2020). <https://drops.dagstuhl.de/opus/volltexte/2020/11649/pdf/LIPIcs-CSL-2020-6.pdf>
- 09/2019 Matteo Acclavio, Lutz Straßburger. *On Combinatorial Proofs for Modal Logics*. Tableaux 2019. https://doi.org/10.1007/978-3-030-29026-9_13
- 07/2019 Matteo Acclavio, Lutz Straßburger. *On Combinatorial Proofs for Logics of Relevance and Entailment*. 26th Workshop on Logic, Language, Information and Computation (Wollic 2019). https://doi.org/10.1007/978-3-662-59533-6_1
- 07/2018 Matteo Acclavio, Lutz Straßburger. *From Syntactic Proofs to Combinatorial Proofs*. International Joint Conference on all aspects of Automated Reasoning (IJCAR 2018). https://doi.org/10.1007/978-3-319-94205-6_32
- 06/2016 Matteo Acclavio. *Proof diagrams for multiplicative linear logic*. In EPTCS 238 and Proceeding of Linearity 2016. <https://arxiv.org/abs/1606.09016>

Conferences with evaluation committee (no formal publication)

- 07/2020 Matteo Acclavio. *Exponentially Handsome Proof Nets*. Linearity & TLLA 2020
- 07/2020 Matteo Acclavio, Giulio Guerrieri. *A Deep Inference System for Differential Linear Logic*. Linearity & TLLA 2020
- 06/2018 Matteo Acclavio, *Proof diagrams as concurrent syntax for Sequent Calculi*, Unilog 2018
- 06/2018 Matteo Acclavio, *A Constructive Proof of Coherence Theorem for Symmetric Monoidal Category*, Unilog 2018
- 09/2017 Matteo Acclavio, *A constructive proof of coherence for symmetric monoidal categories using rewriting*, HDRA 2017
- 09/2017 Matteo Acclavio, *Proof diagrams for multiplicative linear logic: syntax and semantics*, STRINGS 2017

Technical reports, preprints, submissions

- submitted Matteo Acclavio, Gianluca Curzi, Giulio Guerrieri. *Non-wellfounded parsimonious proofs and non-uniform complexity*. <https://arxiv.org/pdf/2404.03311>
- 05/2024 Matteo Acclavio, Fabrizio Montesi, Marco Peressotti. *On Propositional Dynamic Logic and Concurrency*. <https://arxiv.org/abs/2403.18508>
- 05/2023 Matteo Acclavio. *Graphical Proof Theory I: Multiplicative Linear Logic Beyond Cographs*. Preprint <https://arxiv.org/abs/2305.12975>
- 04/2024 Matteo Acclavio, Gianluca Curzi, Giulio Guerrieri. *Infinitary cut-elimination via finite approximations (extended version)*. <https://arxiv.org/abs/2308.07789>

- 04/2021 Matteo Acclavio, Davide Catta, Lutz Straßburger. *Towards a Denotational Semantics for Proofs in Constructive Modal Logic*. <https://arxiv.org/abs/2104.09115>
- 07/2018 Matteo Acclavio. *Gli stage Hippocampe: dall'esperienza dell'IREM di Marsiglia a quella dell'Università Roma Tre*. Preprint <http://matteoacclavio.com/Archive/RapportoHippocampe.pdf>
- 06/2015 Matteo Acclavio. *A constructive proof of coherence for symmetric monoidal categories using rewriting*. Preprint <https://arxiv.org/abs/1606.01722v2>

Selected Talks

The complete list is available at <https://matteoacclavio.com/research.html#Talks>

Invited Talks

- 25/03/2024 "Constructive modal logic: game semantics and lambda-calculi", DutchCat seminar, Amsterdam (NL)
- 23/02/2024 "Let me be clear", Logic Mentoring Workshop 2024, Napoli (IT)
- 15/09/2023 "The proof theory of Pomsets", (i)Po(m)set Project Online Seminar, (online)
- 28/09/2022 "Logic Beyond Formulas", Online Workshop Series "Proofs, Computation and Meaning": On the syntax of proofs, (online)
- 29/06/2022 "Game Semantics for Constructive Modal Logics, Games in Logic Workshop, Vienna (AU)
- 27/06/2021 "An introduction to combinatorial proofs", Linearity & TLLA 2021, Roma (IT, online)
- 14/01/2021 "De la simplicité des preuves: le 24e problème de Hilbert", Journées mondiale de la Logique, Montpellier (FR, online)

Presentation of works at events with evaluation committee

- 23/02/2024 Infinitary cut elimination via finite approximations", CSL2024, Napoli (IT)
- 07/09/2023 "Proof Systems Operating on Graphs", SILFS Triennial Conference 2023, Urbino (IT)
- 06/09/2023 "On Proof Equivalence and Combinatorial Proofs", SILFS Triennial Conference 2023, Urbino (IT)
- 02/07/2023 "Logic Programming with Multiplicative Structures", DCM'23 (FSCD), Roma (IT)
- 01/07/2023 "Multiplicative Logic Beyond Cographs", TLLA2023, Roma (IT)
- 01/07/2023 "Non-uniform polynomial time via non-wellfounded parsimonious proofs", TLLA2023, Roma (IT)
- 11/11/2022 "On proof equivalence via combinatorial proofs", 4th Workshop on Proof Theory and its Applications, Utrecht (NL)
- 13/10/2022 "A Graphical Proof System for Logical Clocks", Journées LHC 2022, Paris (FR)
- 15/09/2022 "Game Semantics for Constructive Modal Logics", Incontro AILA 2022, Caserta (IT)
- 13/09/2022 "Logic Beyond Formulas: Designing Proof Systems on Graphs, Incontro AILA 2022, Caserta (IT)
- 07/09/2022 "Logic Beyond Formulas: Designing Proof Systems on Graphs ", LATD2022, Paestum (IT)
- 24/08/2022 "Combinatorial Proofs for Constructive Modal Logics, AiML2022, Rennes (FR)
- 15/06/2022 "Graphical Proof Theory", NIETS workshop, Bath (UK)
- 10/06/2022 "On Game Semantics and Combinatorial Proofs", StrIP Kick-Off Workshop, Birmingham (UK)
- 03/12/2021 "An Analytic Proof System on Graphs", Workshop on Proof Theory and its Applications, Funchal (P)
- 07/09/2021 "Game Semantics for Constructive Modal Logic", TABLEAUX2021, Birmingham (UK, hybrid)
- 22/01/2021 "Fantastic Connectives and Where to Find Them", Workshop Réseaux, Montpellier (FR, online)
- 16/01/2020 "Generalized Connectives for Multiplicative Linear Logic", CSL2020, Barcellona (ES)
- 05/09/2019 "On Combinatorial Proofs for Modal Logic", Tableaux 2019, London (UK)
- 04/07/2019 "On Combinatorial Proofs for Logics of Relevance and Entailment", Wollic 2019, Utrecht (NL)
- 24/03/2019 "From Syntactic Proofs to Combinatorial Proofs", Proof-Theoretic Semantics 2019, Tübingen (D)
- 24/01/2019 "Combinatorial Proofs for the Modal Logic K", SYMICS 2019, Amsterdam (NL)
- 07/12/2018 "Combinatorial Proof for Modal Logic K", FISP meeting, Vienna (A)

- 09/09/2017 “Proof Diagrams for Multiplicative Linear Logic: Syntax and Semantics”, STRING workshop (FSCD2017), Oxford (UK)
- 09/09/2017 “A constructive proof of coherence for symmetric monoidal categories using rewriting”, HDRA workshop (FSCD2017), Oxford (UK)
- 22/06/2017 “Proof diagrams: Another parallel syntax for proof-theory”, Triennial International Conference of the Italian Society for Logic and Philosophy of Science, Bologna (IT)
- 25/06/2016 “Proof diagrams for multiplicative linear logic”, Linearity workshop at FSCD2016, Porto (P)

Teaching activities

Graduate School Teaching

- 2024 MGS2024: Midlands Graduate School 2024 (Leicester, UK)
- **co-Lecturer** with Sonia Marin: “Session Types” (Advanced course for Master and PhD students, and young researchers).
- 2023 ESSLLI2023: European Summer School in Logic, Language and Information (Ljubljana, SI)
- **co-Lecturer** with Paolo Pistone: “Introduction to Proof Equivalence” (Introductory course for Master and PhD students, and young researchers).

University Teaching

- 2024 University of Sussex
- **Lecturer** “Operating Systems” (Bachelor in Computer Science, [7/22 classes, 7h]).
- 2021 → 2022 University of Luxembourg
- **Lecturer** “Distributed Systems” (Master 1 info, 4h [2/12 classes]).
 - **Lecturer** “Security Protocols” (Master 2 info, 8h [4/12 classes, replacing course leader]).
 - **Lecturer** “Network Security” (Master info, 3h [1/4 classes]).
 - **Exercise Sessions** “Formal Methods” (Master 1 info, 4h).
- 2020 → 2021 University of Luxembourg
- **Lecturer** “Security 2” (Licence 3 info, 12h [6/12 classes, replacing course leader]).
 - **Lecturer** “Security Protocols” (Master 2 info, 2h [1/12 classes]).
 - **Lecturer** “Network Security” (Master info, 3h [1/4 classes]).
- 2020 Contract Lecturer, American University of Paris:
- **Lecturer** spring course “Intro to Computer Programming II”, (Major course in computer science, 54h).
- 2019 Assegno di Ricerca, Università Roma Tre:
- **Exercise Sessions** “Teoremi sulla logica 1” (Master in Math and Master in Philosophy, 12h).
- 2017 ATER (96h), Università de Caen:
- **Exercise Sessions** “Analyse 1” (Licence 1 Maths, 52h).
 - **Exercise Sessions** “Mathématiques” (Licence 1 Info/MIASHS, 38h).
- 2015 → 2016 4^{ème} ATER (192h), Aix-Marseille Université :
- **Lecturer** “Passerelle pour les maths (Licence 1 Maths/Info, 20h).
 - **Lecturer** “Géométrie et Arithmétique 1” (Licence 1 Maths/Info, 20h+20h).
 - **Lecturer** “Introduction à l’analyse (Parcours PEIP, 35h).
 - **Exercise Sessions** “Géométrie et Arithmétique 1” (Licence 1 Maths/Info, 20h+20h+20h).

- 2012 → 2015 *Teaching duties during my Ph.D. (192h), Aix-Marseille Université :*
- **Exercise Sessions** Géométrie et Arithmétique 1 (Licence 1 Maths/Info, 20h+20h+20h+20h).
 - **Exercise Sessions** Algèbre linéaire 1 (Licence 1 Maths/Info, 20h+20h).
- 2008 → 2010 Tutorats :
- **Tutoring** “Algebra 2: groups, ring and fields” years: 2008, 2009 and 2010 (24h+24h+24h).
 - **Tutoring** “Geometry 1: Linear Algebra” years 2009 and 2010 (30h+30h).

Experimental teaching

- 2012 → 2023 **Stages Hippocampe [research stages for high-school students]**: Three-day research workshops hosted by the university in which students are guided in research on small problems in mathematics and computer science.
- I was the promoter, organizer and teacher/supervisor of the following stages at Università Roma Tre (IT):
- “Automi, Grammatiche e Macchine a Registri” (16h),
 - “I nodi” (16h),
 - “Biliardi matematici” (16h+16h),
 - “Automi, Grammatiche e Macchine a Registri” (16h),
 - “Matematica e giochi di carte” (16h+16h),
 - “Automi, linguaggi e modelli di calcolo” (16h),
 - “L’infinito” (16h),
 - “Poligoni e Poliedri” (16h).
- Information about the project: <https://matteoacclavio.com/HippocampeProject.html>
- Supervisor during the following stages at the IREM of Aix-Marseille Université (FR):
- “Les polyèdres” (12h)
 - “Maths à la carte” (12h),
 - “L’infini” (12h),
 - “Maths en embuscades” (12h),
 - “Nœuds” (12h),
 - “Mathématiques et arts” (12h),
 - “Matrices” (12h).
- Information about the stages at IREM: <https://hippocampe.irem.univ-mrs.fr/>
- 2019 **Professione ricercatore [summer school for high-school students]** (6h): I organized a teaching unit on the mathematics of computers (Boolean circuits). At the end of the week, we built a small hydraulic binary adder. Università Roma Tre (IT).
- 2019 **Masterclass in Geometria [one-day workshop in geometry for high-school students]** (6h): After introducing the notion of group and symmetry, we classified the wallpaper groups. Università Roma Tre (IT).
- 2019 **Masterclass in Logica [one-day workshop in logic for high-school students]** (6h): After introducing logic connective, we studied Boolean functions and circuits. We had a brief history of computers from Leibniz’s calculator to von Newman’s architecture. Università Roma Tre (IT).
- 2019 **Liceo Matematico [teaching units coordinated between university and high schools]** (6h): Algorithms, truth tables, Boolean circuits. Liceo Cannizzaro et Università degli studi Roma Tre (IT).
- 2019 **Liceo Matematico [teaching units coordinated between university and high schools]** (6h): Wallpaper groups, symmetries, Euler characteristics and patterns on football balls. Liceo Cannizzaro et Università degli studi Roma Tre (IT).

Science communication

<https://matteoacclavio.com/Math.html?page=pop>

Talks

- 13/01/2023 **Quando possiamo dire che due dimostrazioni non sono la stessa?**: talk at “Aperitivo di Logica”, World Logic Day 2023, Rome (IT).

- 14/01/2021 **De la simplicità des preuves: le 24e problème de Hilbert**: talk at the World Logic Day 2021, Montpellier (FR).
- 2019 **Pensare per Paradossi** (organizing committee): scientific and philosophical writing contest on the notion of paradox in mathematics, physics and philosophy.
- 20/09/2019 **Didactic workshop**: on scientific writing during the kickoff meeting “*Eleatica per le scuole*” of the context *Pensare per Paradossi*.
- 5/2018 **Salon Culture & Jeux Mathématiques 2018**. Paris (FR).
- 14/3/2018 **Pourquoi les Grecs ne pouvaient-ils pas calculer π ?**: talk at the de Pi-Day in Marseille
- 1 → 6/2017 **Various intervention with the Labosaique Project** of the laboratory LMNO of the Università Caen Normandie. <https://www.lmno.cnrs.fr/equipes/dcm/labosaique>.
- 5/2017: **Salon Culture & Jeux Mathématiques 2017**. Paris (FR).

Scientific Service

PC of AAMAS 2024, *Program committee of the conference International Conference on Autonomous Agents and Multiagent Systems AAMAS 2024* <https://www.aamas2024-conference.auckland.ac.nz/>.

PC of CSL2023, *Program committee of the conference Computer Science Logic (CSL2023)* <https://cs12023.mimuw.edu.pl/>.

Reviewer, “*Studia Logica*” since 2020, “*Mathematical Structures in Computer Science*” since 2021, “*Journal of Logic, Language and Information*” since 2023, “*Journal of Logic and Computation*” since 2023.

Sub-reviewer, *WoLLIC2019*, *Tableaux2021*, *CLS2022*, *CSL2023*, *LICS2024*.

Others

since 2024 **Co-organizer**, of the *FoSS seminar of the University of Sussex*. <https://matteoacclavio.com/FoSSseminar/calendar.html>.

LaTeX package “proofzilla”, macros for graphical syntaxes for proof theory, <https://matteoacclavio.com/Math.html?page=research#Tools>.

Qualifications (FR), 25-Mathematics (2017-2021 and 2022-2026) and 27-Computer science (2021-2025).

since 2022 **Founding partner and member**, of the association (for social promotion) “*OILER*”, whose goals include promoting mathematics and science by also projecting and developing teaching activities for schools, <https://en.oiler.education/>.

2021 → 2022 **Management Committee Member**, of the *COST action “CA20111 - European Research Network on Formal Proofs”*. <https://www.cost.eu/actions/CA20111/>.

since 2016 **Member**, of the “*International Research Network (IRN) Linear Logic*”. <https://www.linear-logic.org/en/>.

2020-2022 **Co-organizer**, of the *SRM seminar of the group “Laboratory of Algorithmics, Cryptology and Security” of the university of Luxembourg*. <https://satoss.uni.lu/seminars/srm/>.

2016 → 2019 **Organizer**, of the *Stages Hippocampe at the Università Roma Tre (Rome, Italie)*. <https://matteoacclavio.com/ProgettoHippocampe.html>.

2013 → 2016 **Member**, of the *ANR project “Catàgories, Homotopie et Rààcriture à CATHRE”*. <http://cathre.math.cnrs.fr/>.

Past Research

Postdoc at University of Southern Denmark I have been working under the supervision of Fabrizio Montesi, exploring the semantics of choreographic programming languages for distributed systems, working in an interdisciplinary project (PI Fabrizio Montesi [SDU-Denmark] and Claes de Vreese [SDU-Denmark & UvA-Netherlands]) on internet data flows with the Digital Democracy Center.

- Postdoc at IT, 2022-2023. I have been working under the supervision of Marco Pedicini, comparing, formal
Università methods, software and programming languages used in the verification of cryptographic primitives.
Roma Tre
- Postdoc at During my postdoc in the group *Security and Trust of Software Systems* (<https://satoss.uni.lu/>). I have been working under the supervision of Sjouke Mauw, exploring applications of proof
University of 1u/). I have been working under the supervision of Sjouke Mauw, exploring applications of proof
Luxembourg theoretical results to formal verification tools for security and privacy properties of cryptographic
protocols. For this purpose, we studied proof systems in which certain proofs correspond to successful
executions of protocols using graphical proof theory.
- Research This contract was funded by the project "Linking Focusing and Automated Theorem Proving" and
engineer at directed by Guillaume Burel, Kaustuv Chaudhuri and Dale Miller. We worked on the correspondence
Tàlacom between focussed proof systems and resolution proofs with selection and order. The work is still
SudParis ongoing and I conjecture that an extension of classical logic with a non-commutative connective
could be used to establish this connection.
- Postdoc at The main objective of the Roma Tre grant was to conceive and organize popularization ac-
Roma Tre tivities targeting high school students. A detailed list of activities can be found at <https://matteoacclavio.com/Math.html?page=pop>.
During this period I also worked with Roberto Maieli on generalized connectives and logic program-
ming with proof structures.
- Postdoc at During the INRIA-Saclay postdoc, I worked with Lutz Straßburger on the notion of proof equivalence
INRIA using the syntax of *combinatorial proofs*. We defined a translation between this syntax and both
resolution proofs and analytic tableaux, characterizing the proof equivalence induced by these
translations. Moreover, we also have defined combinatorial proofs for relevant logics and modal
logics.
- PhD During my PhD, I studied string diagram rewriting in algebraic theories. The objective of my thesis
was to investigate the extension of Squier's theorem for monoids to monoidal categories. This
theorem links certain computational proprieties of a monoid (the existence of a confluent rewriting
system) with its topological properties (finite type of its homology groups).
For this purpose, I studied string diagrams and their rewriting. This syntax captures the interaction
between parallel and sequential composition, and it is suitable for representing monoidal categories,
algebraic theories and concurrent systems.
My thesis also contains a proof of Mac Lane's theorem for monoidal categories using higher
dimensional rewriting techniques, and the definition of an original proof system in the syntax of
string diagrams able to capture part of the proof equivalence for derivations in the sequent calculus.
- Master During my Master, I studied word rewriting for algebraic theories. In particular, I have been working
on comparing different proofs of the Novikov-Boone theorem (undecidability of the word problem
for groups).

Languages

Italian	Native
English	Proficient
French	Proficient
Spanish	Basic

Computer skills

Programming	Langage C, Javascript, Java
Other	L ^A T _E X, Office suite, HTML, CSS