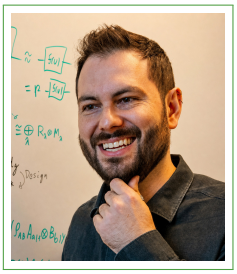
Marco Túlio Quintino

Curriculum Vitae

Associate Professor
(Maître de Conférences, HDR)
Sorbonne University, LIP6
Paris, France
Marco.Quintino@lip6.fr
mtcq.github.io
Google Scholar / arXiv



Last updated: 25 August 2026

Research interests

Quantum information and computation, quantum correlations (entanglement, Bell nonlocality, EPR steering, measurement incompatibility, and prepare-and-measure scenarios), quantum state and channel discrimination, higher-order quantum operations, causality in quantum theory, and semidefinite optimisation.

Current employment

Sep 2022 – Present **Associate Professor (Maître de Conférences, HDR)**, *Sorbonne University*, Paris, France
Member of the Quantum Information team at LIP6

Employment history

Mar 2021 – Aug 2022 **Postdoctoral researcher**, *IQOQI Vienna*, Vienna, Austria
Postdoctoral researcher in the group of Prof. Časlav Brukner
Funding: ESQ postdoc fellowship

Jun 2020 – Mar 2021 **Postdoctoral researcher**, *University of Vienna*, Vienna, Austria
Postdoctoral researcher in the group of Prof. Časlav Brukner
Funding: Austrian Science Fund (FWF) through the SFB project BeyondC

Mar 2019 – May 2020 **Postdoctoral researcher**, *The University of Tokyo*, Tokyo, Japan
Postdoctoral researcher in the group of Prof. Mio Murao
Funding: Q-LEAP project of the MEXT Japan

Nov 2016 – Nov 2018 **Postdoctoral researcher**, *The University of Tokyo*, Tokyo, Japan
Postdoctoral researcher in the group of Prof. Mio Murao
Funding: JSPS postdoc fellowship

Education

Jan 2025 **Habilitation in Computer Science [HDR]**, *Sorbonne University*, Paris, France
Thesis: Quantum information processing via higher-order operations
Defence date: 17 Jan 2025
Jury: Pablo Arrighi, Anne Broadbent, Giulio Chiribella, Elham Kashefi, Mário Ziman

Oct 2012 – Sep 2016 **PhD in Physics**, *Université de Genève*, Geneva, Switzerland
Thesis: Quantum entanglement and measurement incompatibility as resources for nonlocality
Defence date: 9 Sep 2016
Supervisor: Nicolas Brunner
Funding: SNF, Switzerland

Aug 2010 – Sep 2012 **MSc in Physics**, *UFMG*, Belo Horizonte, Brazil
Thesis: Black box correlations: locality, noncontextuality, and convex polytopes
Defence date: 12 Sep 2012
Supervisor: Marcelo Terra Cunha
Co-supervisor: Daniel Cavalcanti
Funding: CAPES, Brazil

Feb 2007 – Aug 2010 **BSc in Physics**, *UFMG*, Belo Horizonte, Brazil
Monograph: Não-localidade como recurso para comunicação
Supervisor: Marcelo Terra Cunha
Funding: CNPq, Brazil

Research funding and fellowships

Sep 2025 – Aug 2030 **Principal Investigator and project coordinator**, *ANR JCJC HOQO-KS (ANR-25-CE47-6396)*, Sorbonne University / LIP6, France
Higher-Order Quantum Operations with Known States; funding: EUR 358,660

Jan 2025 – Dec 2026 **Research mobility project**, *PHC Polonium (53077ZD / BPN/BFR/2024/1/00026), together with Michał Studziński*, Sorbonne University / University of Gdańsk, France and Poland
Efficient methods for storing and transforming quantum programs; bilateral mobility funding for research visits

2024 **Principal Investigator**, *Tremplins nouveaux entrants & nouvelles entrantes*, Sorbonne University / LIP6, France
Higher-Order Quantum Operations with Known States (HOQO-KS); funding: EUR 5,000

Oct 2023 – Sep 2026 **Funding for PhD student**, *QuanTEdu France doctoral contract (via PCQT)*, Sorbonne University / LIP6, France
Higher-Order Quantum Operations: Foundations and Applications; funding: one 36-month doctoral contract from the French National Quantum Plan

2020 **Postdoctoral research fellowship**, *ESQ Postdoc Fellowship Program*, Austrian Academy of Sciences / IQOQI Vienna, Austria/EU
Higher-Order Quantum Operations: Foundations and Applications; funding: EUR 124,506

Nov 2016 – Mar 2019 **Co-Investigator / Foreign JSPS Fellow**, *Grant-in-Aid for JSPS Fellows (KAKENHI 16F16769), with Mio Murao (PI)*, The University of Tokyo, Japan
Entanglement and nonlocality in quantum theory; direct-cost funding: JPY 2,100,000

Nov 2016 – Nov 2018 **Postdoctoral research fellow**, *JSPS Postdoctoral Fellowship for Research in Japan (Standard)*, The University of Tokyo, Japan
Funding: JPY 8,888,000

2012 **Master's research stipend**, *CAPES Master's stipend*, UFMG, Brazil
Black box correlations: locality, noncontextuality, and convex polytopes; funding: BRL 29,100

Languages

Portuguese (native), English (fluent), French (fluent), Spanish (advanced), Japanese (intermediate)

Technical skills

Scientific computing: MATLAB and Mathematica (advanced); familiarity with Julia, Python, and Bash.

I use GitHub (https://github.com/mtcq) to share research-related computational code.

Publications

Summary: 65 research articles: 52 peer-reviewed journal publications and 13 preprints. Journal publications include 13 Phys. Rev. Lett., 3 Nat. Commun., 1 J. Math. Phys., 2 IEEE Trans. Inf. Theory, and 14 Quantum.

- More than 110 co-authors.
- Up-to-date citation metrics are available on Google Scholar.
- All my scientific papers are available at arXiv and on my personal website.
- All publications since I moved to France may also be found on HAL.
- **A list with all my publications can be found at the end of this CV.**

Responsibilities

Sep 2023 – Present **Deputy coordinator (responsable adjoint)**, Sorbonne University's Master's programme in Quantum Information. Curriculum design, admissions, and master's thesis examinations.

2026 **NII 1st-call internship (Tokyo, Japan)**: selected and ranked LIP6 applicants.

2026 **QuanG2 committee member (Grenoble, France)**: Autumn 2026 PhD call.

2025 **NII internships, both calls (Tokyo, Japan)**: selected and ranked LIP6 applicants (first; second).

2025 **EDITE (ED 130) doctoral-contract jury (Paris, France)**: Operations Research, Algorithms, Computing and Programming panel member; chair: Antoine Genitrini.

2024 **NII 2nd-call internship (Tokyo, Japan)**: selected and ranked LIP6 applicants.

Research supervision

Worked closely with undergraduate, master's, and PhD students from different backgrounds at several institutions.

- Completed the co-supervision of 2 PhD students
- Completed the co-supervision of 2 master's theses
- Completed the supervision of 8 master's internship projects
- Currently supervising 4 PhD students

PhD supervision

Dec 2025 – Present **PhD supervision**, *Sorbonne University*, Paris, France
Student name: Polina Chernyshova
Co-supervisor: Mio Murao, The University of Tokyo (Tokyo, Japan)
Project title: Higher-order quantum computing with partial information

Nov 2025 – Present **PhD supervision**, *Sorbonne University*, Paris, France
Student name: Mariia Kvashchuk
Co-supervisor: Akihito Soeda, NII (Tokyo, Japan)
Project title: Quantum communication and discrimination in the single-shot regime

Apr 2025 – Present **PhD supervision**, *Sorbonne University*, Paris, France
Student name: Lucas Porto
Co-supervisor: Mattia Walschaers
Project title: The relationship between quantum entanglement and Bell nonlocality

Oct 2023 – Present **PhD supervision**, *Sorbonne University*, Paris, France
Student name: Vanessa Brzić
Project title: Higher-Order Quantum Operations: Foundations and Applications

PhD co-supervision

Jun 2017 – Jan 2022 **PhD co-supervision**, *UFMG*, Belo Horizonte, Brazil
Student name: Marcello Nery
Main supervisor: Reinaldo Oliveira Vianna
Thesis title: Non-classical common-cause and direct-cause
PhD defended: 21 Jan 2022

Jan 2018 – Mar 2021 **PhD co-supervision**, *The University of Tokyo*, Tokyo, Japan
Student name: Qingxiuxiong Dong
Main supervisor: Mio Murao
Thesis title: Quantum algorithms for higher-order quantum transformations of universal unitary operations
PhD awarded: 19 Mar 2021

Hosting PhD secondments

Mar 2024 – Apr 2024 **PhD secondment**, *Sorbonne University*, Paris, France
Student name: Ties Ohst
Main supervisor: Otfried Gühne
Project title: Quantum memory in causally ordered processes of universal unitary operations

Master's thesis co-supervision

Jul 2018 – Jul 2020 **MSc co-supervisor**, *The University of Tokyo*, Tokyo, Japan
Student name: Wataru Yokojima
Main supervisor: Mio Murao
Thesis title: Consequences of preserving reversibility in quantum superchannels
MSc defended: Feb 2020

Jun 2017 – Jan 2018 **MSc co-supervisor**, *The University of Tokyo*, Tokyo, Japan
Student name: Qingxiuxiong Dong
Main supervisor: Mio Murao
Thesis title: Quantum implementability of maps and supermaps
MSc defended: Feb 2018

Master's internship supervision

Sep 2025 – Aug 2026 **Master's internship supervisor**, *Sorbonne University*, Paris, France
Kristin Sundal Lien
Project title: Entanglement and channel discrimination: sometimes less is more

Feb 2025 – Aug 2025 **Master's internship supervisor**, *Sorbonne University*, Paris, France
Loïc Divry-Kennedy
Project title: Discriminating qubit states and channels from any finite group

Mar 2025 – Sep 2025 **Master's internship supervisor**, *Sorbonne University*, Paris, France
Charbel Eid
Project title: Optimal discrimination between quantum measurements and quantum instruments

Feb 2024 – Mar 2024 **Master's internship supervisor**, *Sorbonne University*, Paris, France
Yuki Koizumi
Project title: Equivalence between unitary estimation and deterministic port-based teleportation

Jan 2024 – Apr 2024 **Master's internship supervisor**, *Sorbonne University*, Paris, France
Shijun Zhang
Project title: Perfect discrimination of unitary operations when k calls are available

Apr 2023 – Jun 2023 **Master's internship supervisor**, *Sorbonne University*, Paris, France
Shijun Zhang
Project title: Perfect discrimination of unitary operations when k calls are available

Apr 2023 – Jun 2023 **Master's internship supervisor**, *Sorbonne University*, Paris, France
Charbel Eid
Project title: Optimal discrimination between quantum measurements and instruments

Apr 2023 – Jun 2023 **Master's internship supervisor**, *Sorbonne University*, Paris, France
Ethan Obadia
Project title: Quantum channel discrimination with partially entangled states

Participation in examination boards

I have served on 10 PhD and 2 MSc examination committees, including as an external reviewer.

Membership of PhD juries

25 Jun 2026 **Thesis reviewer**, *Center for Theoretical Physics PAS*, Warsaw, Poland
Student name: Oskar Szymon Słowik
Thesis title: Spectral gaps, t-designs and ϵ-nets in quantum computing
Supervisors: Adam Sawicki and Oliver Reardon-Smith

19 Mar 2026 **Thesis reviewer**, *Unicamp*, Campinas, Brazil
Student name: José Nogueira
Thesis title: Postquantum correlations and their consequences: From exclusivity graphs to Prepare-and-Measure scenarios
Supervisors: Rafael Rabelo and Marcelo Terra Cunha

29 Oct 2025 **Thesis reviewer**, *National University of Singapore*, Singapore, Singapore
Student name: Peter Sidajaya
Thesis title: Studies in quantum foundations
Supervisor: Valerio Scarani

6 Oct 2025 **Thesis reviewer**, *Université Grenoble Alpes*, Grenoble, France
Student name: Pierre Pocreau
Thesis title: The use of entanglement in non-cooperative games, and the computational power of indefinite causal order
Supervisors: Mehdi Mhalla and Alastair Abbott

16 May 2025 **Thesis reviewer**, *University of Siegen*, Siegen, Germany
Student name: Carlos Belini de Gois
Thesis title: Certifying quantum states and their properties through correlations, communication and tomography
Supervisor: Otfried Gühne

17 Dec 2024 **Thesis reviewer**, *Unicamp*, Campinas, Brazil
Student name: Lucas Pollyceno
Thesis title: Multipartite Bell nonlocality and communication
Supervisor: Rafael Rabelo

23 Oct 2023 **Thesis reviewer**, *Department of Physics, Technical University of Denmark*, Copenhagen, Denmark
Student name: Carles Roch i Carceller
Thesis title: Quantum state discrimination with applications in contextuality and randomness certification
Supervisor: Jonatan Bohr Brask

12 Jun 2023 **Thesis reviewer**, *Université libre de Bruxelles*, Brussels, Belgium
Student name: Jef Pauwels
Thesis title: Entanglement and quantum communication between partially characterized devices
Supervisor: Stefano Pironio

10 Mar 2023 **Thesis reviewer**, *Unicamp*, Campinas, Brazil
Student name: Carlos Humberto de Souza Vieira
Thesis title: Exploring the role of entanglement in sets of behaviors from prepare-and-measure scenarios
Supervisor: Marcelo Terra Cunha

3 Feb 2022 **Member of the PhD defence board**, *Unicamp*, Campinas, Brazil
Student name: Roberto Dobal Baldijão
Thesis title: Quantum Darwinism and Contextuality
Supervisor: Marcelo Terra Cunha

Membership of MSc juries

31 Jan 2024 **Thesis reviewer**, *Unicamp*, Campinas, Brazil
Student name: Arthur Couto Rosa Dutra de Oliveira
Thesis title: Can KS-Contextuality Hide in a Crowd? Investigating state-independent contextuality in systems with multiple observers
Supervisor: Marcelo Terra Cunha

9 Apr 2021 **Thesis reviewer**, *Unicamp*, Campinas, Brazil
Student name: Lucas da S. Pollyceno
Thesis title: Novos critérios para o princípio da causalidade de informação
Supervisor: Marcelo Terra Cunha

Individual thesis monitoring committees (CSI)

8 Jul 2026 **External member of the thesis monitoring committee**, *Université Grenoble Alpes*, Grenoble, France
Student name: Amanda Maria Fonseca
PhD project: Characterising causal structures: classical, quantum, and relativistic causality
Supervisors: Cyril Branciard (director) and V. Vilasini (co-director)

16 Jun 2026 **External member of the thesis monitoring committee**, *Sorbonne University*, Paris, France
Student name: Youness Ayaita
PhD project: L'induction et la probabilité
Supervisor: Anouk Barberousse

15 Jun 2026 **External member of the thesis monitoring committee**, *Institut de Physique Théorique (IPhT)*, Gif-sur-Yvette, France
Student name: Mu-En Liu
PhD project: Tsirelson Inequalities in the Minimal Bell Scenario
Supervisor: Jean-Daniel Bancal

24 Sep 2025 **External member of the thesis monitoring committee**, *Université Grenoble Alpes*, Grenoble, France
Student name: Amanda Maria Fonseca
PhD project: Characterising causal structures: classical, quantum, and relativistic causality
Supervisors: V. Vilasini (Inria, QINFO) and Cyril Branciard (CNRS, Institut Néel)

5 Sep 2025 **External member of the thesis monitoring committee**, *Sorbonne University*, Paris, France
Student name: Youness Ayaita
PhD project: Le raisonnement ampliatif : Expliquer le succès épistémique de la science
Supervisor: Anouk Barberousse

7 May 2025 **External member of the thesis monitoring committee**, *Université Paris-Saclay*, Palaiseau, France
Student name: Octave Mestoudjian
PhD project: Sous-systèmes généralisés en informatique quantique
Supervisors: Pablo Arrighi, Augustin Vanrietvelde, and Mathew Wilson

8 Oct 2024 **External member of the thesis monitoring committee**, *Sorbonne University*, Paris, France
Student name: Youness Ayaita
PhD project: Le raisonnement ampliatif
Supervisor: Anouk Barberousse

8 Jul 2024 **External member of the thesis monitoring committee**, *Université Grenoble Alpes*, Grenoble, France
Student name: Pierre Pocreau
PhD project: Implications of causal indefiniteness for quantum communication
Supervisors: Mehdi Mhalla and Alastair Abbott

1 Jul 2024 **External member of the thesis monitoring committee**, *Université Paris-Saclay*, Palaiseau, France
Student name: Octave Mestoudjian
PhD project: Sous-systèmes généralisés en informatique quantique
Supervisors: Pablo Arrighi and Augustin Vanrietvelde

21 Jun 2023 **External member of the thesis monitoring committee**, *Université Grenoble Alpes*, Grenoble, France
Student name: Pierre Pocreau
PhD project: Implications of causal indefiniteness for quantum communication
Supervisors: Mehdi Mhalla and Alastair Abbott

Teaching summary

A detailed list of my teaching experience is presented at the end of this CV.
• At least 121 h of lectures, plus 4 one-off lectures
• At least 308 h of tutorials, plus 6 teaching-assistant appointments
• Responsible for creating/reformulating the course "Quantum Circuits and Query Complexity" (previously called "Quantum Circuits and Logic Gates") for Sorbonne University's Master's programme in Quantum Information.
• Responsible for creating/reformulating the course "QIIntro" for Sorbonne University's Master's programme in Quantum Information.

Brief description of recent teaching

Undergraduate level in computer science at Sorbonne University:
- Mathématiques Discrètes (TD/TP, 3x)
- Introduction à la calculabilité et à la décidabilité (TD/TP, 3x)

Master's level in the Quantum Information programme at Sorbonne University:

- Quantum Circuits and Query Complexity (lectures and tutorials, 3x)
- QIIntro (lectures and tutorials, 2x)
- Quantum Kinematics for CS (tutorials, 1x)
- Théorie de Shannon classique et quantique (lectures and tutorials, 2x)

Master's level (outside quantum information) at Sorbonne University:

- Analyse d'algorithmes et génération aléatoire (TD/TP, 1x)

Outreach and dissemination

During my JSPS postdoc in Japan, I joined the JSPS Science Dialogue Program, a project where I presented my research in an accessible way to Japanese high school students. I am also interested in popular science events.

21 Sep 2018 **JSPS Science Dialogue**, Suwa Seiryo High School (Nagano Prefecture), Japan
What do you mean by random? Randomness, Quantum Mechanics, and Bell Non-locality

5 Dec 2017 **JSPS Science Dialogue**, Takezono High School (Ibaraki Prefecture), Japan
What do you mean by random? Randomness, Quantum Mechanics, and Bell Non-locality

7 Jan 2013 **Science Slam Berlin**, SO36, Berlin, Germany
Does God play dice? Genuine randomness in nature

Reviewing activities

Referee for the journals: Quantum, PRL, PRX, PRX Quantum, PRA, Phys. Rev. Research, J. Math. Phys., NJP, J. Phys. A, npj Quantum Information, Optica.

I have also refereed submissions for conferences such as QIP, STOC, TQC, and AQIS.

Scientific conferences

- Organised 1 workshop
- Served on the programme committees of 8 conferences
- Lecturer at 1 summer school
- Invited to present talks at 14 conferences and workshops (two events were cancelled)
- 23 contributed talks accepted at 22 conferences, including 3 talks accepted at QIP
- 15 posters accepted at conferences

Organisation

Dec 2023 **Japanese-French Quantum Information 2023 Workshop**, Tokyo, Japan

Programme committees

Jun 2026 **Causalworlds 2026**, Grenoble, France
Oct 2025 **YQIS25**, Barcelona, Spain
Aug 2025 **AQIS25**, The University of Hong Kong (HKU), Hong Kong
Jun–Jul 2025 **CEQIP2025**, Smolenice Castle, Slovakia
Sep 2024 **Causalworlds 2024**, Waterloo, Canada
Aug 2024 **AQIS24**, Sapporo, Japan

Sep 2019 **YQIS2019**, Gdańsk/Sopot, Poland
Sep 2018 **YQIS2018**, Vienna, Austria

Summer school

Aug–Sep 2026 **QALYPSO 2026: Quantum Optimisation Techniques & Physics of Computation**, Valletta, Malta
Lecturer: Semidefinite Programming as an Analytical and Computational Tool for Quantum Information

Invited talks

Sep 2026 **Workshop on the Structure of Quantum Theory**, Münster, Germany
Forthcoming invited talk; title to be announced

Aug 2026 **YQIS 2026**, Vienna, Austria
Invited talk: Optimal pure state cloning and transposition are complementary channels

Apr 2026 **851st WE-Heraeus Seminar: 90 Years of Einstein–Podolsky–Rosen Paradox**, Physikzentrum Bad Honnef, Germany
Invited talk: Understanding the relationship between measurement incompatibility, EPR steering, and Bell nonlocality

Feb 2026 **Quantum Correlations and Measurements**, Les Diablerets, Switzerland
Invited talk: Optimal pure state cloning and optimal pure state transposition are complementary channels

Jul 2025 **CEQIP**, Smolenice Castle, Slovakia
Invited tutorial: Quantum information processing via higher-order operations

Jun 2025 **FoQaCiA Workshop 2025**, Braga, Portugal
Talk: Can the quantum switch be deterministically simulated?

Apr 2025 **BQIT:25**, Bristol, UK
Talk: Can the quantum switch be deterministically simulated?

Apr 2022 **Tsirelson Memorial Workshop**, Vienna, Austria
Talk: Measurement incompatibility and Bell nonlocality: from 1985 to 2022

Mar 2020 **Second Workshop on Quantum Protocols**, Waseda University, Tokyo, Japan
Workshop cancelled due to the COVID-19 pandemic
Planned talk: Reversing Unknown Quantum Transformations: Universal Quantum Circuit for Inverting General Unitary Operations

Mar 2020 **The Order of Things (TOOT)**, Obergurgl, Austria
Conference cancelled due to the COVID-19 pandemic

Jan 2020 **Quantum Information Structure of Spacetime (QISS) 2020**, Hong Kong
Talk: Reversing unknown quantum transformations: A universal quantum circuit for inverting general unitary operations

Nov 2018 **Quantum Maiwar**, Brisbane, Australia
Talk: Semi-device-independent certification of indefinite causal order

Sep 2018 **Post-AQIS2018 Workshop**, Nagoya, Japan
Invited talk: Reversing unknown quantum transformations: A universal protocol for inverting general unitary operations

Aug 2017 **FQXi Workshop: Quantum Incompatibility**, Laach Lake, Germany
Talk: Genuine n-wise measurement incompatibility and device-independent certificates of incompatibility

Accepted talks

Aug 2026 **Quantum Physics and Logic 2026 (QPL2026)**, Amsterdam, The Netherlands
Talk: Composable simultaneous purification: when all communication scenarios reduce to spatial correlations

Jul 2025 **Quantum Physics and Logic 2025 (QPL2025)**, Varna, Bulgaria
Talk: One-to-one correspondence between deterministic port-based teleportation and unitary estimation

Jul 2025 **Quantum Physics and Logic 2025 (QPL2025)**, Varna, Bulgaria
Talk: All incompatible measurements on qubits lead to multiparticle Bell nonlocality

Feb 2025 **Quantum Information Processing 2025 (QIP2025)**, Raleigh, United States
Talk: One-to-one correspondence between deterministic port-based teleportation and unitary estimation
(presented by Satoshi Yoshida)

Aug 2023 **Asian Quantum Information Science 2023 (AQIS2023)**, Seoul, South Korea
Talk: Simulating qubit correlations with classical communication

Feb 2023 **Quantum Information Processing 2023 (QIP2023)**, Ghent, Belgium
Talk: Simulating qubit correlations with classical communication
(presented by Martin J. Renner)

Sep 2021 **SFB BeyondC Autumn Workshop 2021**, Innsbruck, Austria
Talk: Universal protocols for transforming unitary quantum operations

Jun 2021 **Quantum Physics and Logic 2021 (QPL2021)**, Gdańsk (online), Poland
Talk: Success-or-draw: A strategy allowing repeat-until-success in quantum computation

Jan 2020 **Quantum Information Processing 2020 (QIP2020)**, Shenzhen, China
Talk: Adaptive circuits exponentially outperform parallel ones for universal unitary inversion

Aug 2019 **Asian Quantum Information Science 2019 (AQIS2019)**, Seoul, South Korea
Talk: Semi-device-independent certification of indefinite causal order

Sep 2018 **Asian Quantum Information Science 2018 (AQIS2018)**, Nagoya, Japan
Talk: Reversing unknown quantum transformations

Jul 2018 **Modern Topics in Quantum Information**, Natal, Brazil
Talk: Reversing unknown quantum transformations

May 2017 **36th Quantum Information Technology Symposium (QIT36)** , Kyoto, Japan
Talk: Super-activation of quantum steering

Mar 2016 **Quantum Networks (FQXi)**, Barcelona, Spain
Talk: Entangled states with a local hidden-variable model for sequential measurements

Dec 2015 **Quantum Correlations, Contextuality and All That... Again**, Natal, Brazil
Talk: Algorithmic construction of local hidden variable models for entangled quantum states

Aug 2015 **V Quantum Information School and Workshop**, Paraty, Brazil
Talk: Joint measurability, EPR steering, and Bell nonlocality

Aug 2014 **Asian Quantum Information Science 2014 (AQIS2014)**, Kyoto, Japan
Talk: Joint measurability, EPR steering, and Bell nonlocality

Dec 2013 **Quantum Correlations, Contextuality and All That**, Natal, Brazil
Talk: Measurement Incompatibility in Quantum Mechanics

Aug 2013 **IV Quantum Information School and Workshop**, Paraty, Brazil
Talk: Genuine Hidden Quantum Nonlocality

Jun 2012 **Workshop on Quantum Correlations**, Natal, Brazil
Talk: All noncontextuality inequalities for the n-cycle scenario

Dec 2011 **III Encontro temático do INCT-IQ**, Natal, Brazil
Talk: From the detection loophole to the transmission loophole

Aug 2011 **III Quantum Information School and Workshop**, Paraty, Brazil
Talk: Maximal CHSH violations with low efficiency photodetection and homodyne measurements

Poster presentations

Sep 2021 **Time in quantum theory, ETH workshop**, Zurich (online), Switzerland
Poster: Universal quantum circuits for transforming unitary operations: exponential advantages with causally adaptive strategies and the power of indefinite causality

Sep 2021 **Vienna Quantum Foundations Conference (VQF-CON 2021)**, Vienna , Austria
Poster: Universal quantum circuits for transforming unitary operations: exponential advantages with causally adaptive strategies and the power of indefinite causality

Jun 2020 **Theory of Quantum Computation, Communication and Cryptography 2020 (TQC2020)**, Riga (online), Latvia
Poster: Adaptive circuits exponentially outperform parallel ones for universal unitary inversion

Dec 2019 **Topical Conference on Quantum Communication and Security 2019 (TCQC2019)**, Kyoto, Japan
Poster: Reversing unknown quantum transformations: A universal quantum circuit for inverting general unitary operations

Aug 2019 **Asian Quantum Information Science 2019 (AQIS2019)**, Seoul, South Korea
Poster: Distributed sampling, quantum communication witnesses, and measurement incompatibility

Apr 2018 **International Conference on Challenges in Quantum Information Science (CQIS18)**, Tokyo, Japan
Poster: The Cost of Implementing Non-Completely Positive Linear Maps

Jan 2014 **Quantum Information Processing 2014 (QIP2014)**, Barcelona, Spain
Poster: Genuine Hidden Quantum Nonlocality

Aug 2013 **IV Quantum Information School and Workshop**, Paraty, Brazil
Poster: Realistic loophole-free Bell test with atom-photon entanglement

Jan 2013 **Quantum Information Processing 2013 (QIP2013)**, Beijing, China
Poster: Towards a loophole-free Bell test with continuous-variable systems

May 2012 **TQC2012**, Tokyo, Japan
Poster: Perfect homodyne measurements imply CHSH violation with arbitrarily low photodetection efficiency

Nov 2010 **XIX Semana da Iniciação Científica**, *UFMG*, Belo Horizonte, Brazil
Poster: Jogo do Quadrado Mágico; Pseudotelepatia Quântica

Nov 2010 **V Simpósio Nacional / Jornadas de Iniciação Científica**, *IMPA*, Rio de Janeiro, Brazil
Poster: Não-localidade como recurso para comunicação

Oct 2010 **WECIQ2010**, Petrópolis, Brazil
Poster: Jogo do Quadrado Mágico; Pseudotelepatia Quântica

Oct 2009 **XVIII Semana da Iniciação Científica**, *UFMG*, Belo Horizonte, Brazil
Poster: Algoritmo de Grover – Selected among the top 8%

Oct 2008 **XVII Semana da Iniciação Científica**, *UFMG*, Belo Horizonte, Brazil
Poster: Números Inteiros e Criptografia RSA

Participation

Jun 2025 **Quantum Information (Benasque)**, Benasque, Spain
Workshop without formal talks

15–19 Apr 2024 **Foundations of Quantum Physics beyond Bell: Celebrating 60 years of Bell's theorem**, Les Diablerets, Switzerland

Jun 2023 **Quantum Information (Benasque)**, Benasque, Spain
Workshop without formal talks

Jun 2019 **Quantum Information (Benasque)**, Benasque, Spain
Workshop without formal talks

Jun 2017 **Quantum Information (Benasque)**, Benasque, Spain
Workshop without formal talks

Jun 2015 **Quantum Information (Benasque)**, Benasque, Spain
Workshop without formal talks

Aug 2015 **V Quantum Information School and Workshop**, Paraty, Brazil

Sep 2015 **Gisin's 60th birthday workshop**, Riederalp, Switzerland

Jun 2013 **Quantum Information (Benasque)**, Benasque, Spain
Workshop without formal talks

Aug 2013 **IV Quantum Information School**, Paraty, Brazil

Jul 2012 **62nd Lindau Nobel Laureate Meeting dedicated to Physics**, Lindau, Germany

Aug 2011 **III Quantum Information School and Workshop**, Paraty, Brazil

Jul 2011 **28º Colóquio Brasileiro de Matemática**, *IMPA*, Rio de Janeiro, Brazil

Aug 2010 **XIV Escola Brasileira de Probabilidade**, Búzios, Brazil

Jul 2010 **Clay Mathematics Institute 2010 Summer School**, *Probability and Statistical Physics in Two and More Dimensions*, Búzios, Brazil

Academic visit seminars

30 Apr 2025 **University of Siegen**, Siegen, Germany
Talk: Can the quantum switch be deterministically simulated?
Host: Otfried Gühne

12 Dec 2024 **The University of Hong Kong (HKU)**, Hong Kong
Talk: Can the quantum switch be deterministically simulated?
Host: Giulio Chiribella

11 Nov 2024 **University of Geneva**, Geneva, Switzerland
Talk: All incompatible measurements on qubits lead to multiparticle Bell nonlocality
Host: Nicolas Brunner

8 Jul 2024 **Université Grenoble Alpes**, Grenoble, France
Talk: All incompatible measurements on qubits lead to multiparticle Bell nonlocality
Host: Alastair Abbott

25 Jun 2024 **University of Pisa**, Pisa, Italy
Talk: The relationship between measurement incompatibility and Bell nonlocality
Host: Costantino Budroni

24 Oct 2023 **Technical University of Denmark, QPIT**, Copenhagen, Denmark
Talk: Transforming and discriminating quantum operations using higher-order methods
Host: Jonatan Bohr Brask

16 Mar 2023 **Les Ateliers du LKB, Laboratoire Kastler Brossel**, Paris, France
Talk: Parallel, sequential, and non-causal strategies for transforming unitary operations and discriminating quantum channels via a higher-order approach.
Host: Nancy Paul

10 Dec 2021 **University of Gdańsk**, Gdańsk, Poland
Talk: Transforming unitary operations via quantum circuits: Universal unitary inversion, transposition, and complex conjugation
Host: Michał Studziński

18 Mar 2021 **Quantin Research Group**, Warsaw (online), Poland
Talk: Universal protocols for transforming unitary quantum operations
Host: Michał Oszmaniec

5 Feb 2021 **Technical University of Denmark**, Copenhagen (online), Denmark
Talk: Reversing unknown quantum transformations: A universal protocol for inverting general unitary operations
Host: Jonatan Bohr Brask

10 Jul 2019 **Universitat Autònoma de Barcelona**, Barcelona, Spain
Talk: Reversing unknown quantum transformations: A universal protocol for inverting general unitary operations
Host: Andreas Winter

14 Feb 2019 **ICFO**, Barcelona, Spain
Talk: Reversing unknown quantum transformations: A universal protocol for inverting general unitary operations
Host: Antonio Ácin

12 Feb 2019 **GAP**, Geneva, Switzerland
Talk: Reversing unknown quantum transformations: A universal protocol for inverting general unitary operations
Host: Nicolas Brunner

24 Jan 2019 **IQOQI Vienna**, Vienna, Austria
Talk: Reversing unknown quantum transformations: A universal protocol for inverting general unitary operations
Host: Marcus Huber

16 Dec 2016 **The University of Tokyo**, Tokyo, Japan
Talk: Super-Activation of Quantum Steering
Host: Mio Murao

18 Nov 2016 **UFMG**, Belo Horizonte, Brazil
Talk: Super-Activation of Quantum Steering
Host: Marcelo Terra Cunha

18 Nov 2015 **University of Siegen**, Siegen, Germany
Talk: Inequivalence of Entanglement, Steering, and Bell Nonlocality For General Measurements
Host: Otfried Gühne

18 Aug 2015 **UFMG**, Belo Horizonte, Brazil
Talk: Inequivalence of Entanglement, Steering, and Bell Nonlocality For General Measurements
Host: Marcelo Terra Cunha

31 Jul 2015 **UFMG**, Belo Horizonte, Brazil
Talk: Joint Measurability, EPR Steering, and Bell Nonlocality
Host: Marcelo Terra Cunha

15 Jun 2015 **Waseda University**, Tokyo, Japan
Talk: Joint Measurability, EPR Steering, and Bell Nonlocality
Host: Kazuya Yuasa

26 May 2015 **Perimeter Institute (PI)**, Waterloo, Canada
Talk: Joint Measurability, EPR Steering, and Bell Nonlocality
Host: Matthew Pusey

9 Oct 2014 **ICFO**, Barcelona, Spain
Talk: Joint Measurability, EPR Steering, and Bell Nonlocality
Host: Antonio Ácin

5 Sep 2014 **KCIK**, Gdańsk, Poland
Talk: Joint Measurability, EPR Steering, and Bell Nonlocality
Host: Michał Horodecki

25 Aug 2014 **The University of Tokyo**, Tokyo, Japan
Talk: Joint Measurability, EPR Steering, and Bell Nonlocality
Host: Mio Murao

3 Dec 2013 **UFMG**, Belo Horizonte, Brazil
Talk: Genuine Hidden Quantum Nonlocality
Host: Marcelo Terra Cunha

19 Jul 2012 **KCIK**, Gdańsk, Poland
Talk: Characterization of the n-Cycle Noncontextual Polytope
Host: Michał Horodecki

11 Jul 2012 **ICFO**, Barcelona, Spain
Talk: Characterization of the n-Cycle Noncontextual Polytope
Host: Antonio Ácin

List of publications

Peer-reviewed publications

[1] L. E. A. Porto, S. Designolle, S. Pokutta, and M. T. Quintino. "Measurement incompatibility and quantum steering via linear programming". *Quantum* **10**, 2141 (2026).

[2] F. Grosshans, M. Horodecki, M. Murao, T. Młynik, M. T. Quintino, M. Studziński, and S. Yoshida. "Multicopy quantum state teleportation with application to storage and retrieval of quantum programs". *Quantum* **10**, 2105 (2026).

[3] S. Yoshida, Y. Koizumi, M. Studziński, M. T. Quintino, and M. Murao. "One-to-one correspondence between deterministic port-based teleportation and unitary estimation". *IEEE Trans. Inf. Theory* **72**, 2358–2377 (2026).

[4] T.-A. Ohst, S. Zhang, H. C. Nguyen, M. Plávala, and M. T. Quintino. "Characterising memory in quantum channel discrimination via constrained separability problems". *Quantum* **10**, 1988 (2026).

[5] J. Bavaresco, H. Kristjánsson, M. Murao, T. Odake, M. T. Quintino, P. Taranto, and S. Yoshida. "Simulating the quantum switch with quantum circuits is computationally hard". *Nat. Commun.* **16**, 10216 (2025).

[6] M. Plávala, O. Gühne, and M. T. Quintino. "All incompatible measurements on qubits lead to multiparticle Bell nonlocality". *Phys. Rev. Lett.* **134**, 200201 (2025).

[7] S. Egelhaaf, J. Pauwels, M. T. Quintino, and R. Uola. "Certifying measurement incompatibility in prepare-and-measure and Bell scenarios". *J. Phys. A: Math. Theor.* **58**, 095304 (2025).

[8] S. Milz and M. T. Quintino. "Characterising transformations between quantum objects, 'completeness' of quantum properties, and transformations without a fixed causal order". *Quantum* **8**, 1415 (2024).

[9] P. Taranto, M. T. Quintino, M. Murao, and S. Milz. "Characterising the hierarchy of multi-time quantum processes with classical memory". *Quantum* **8**, 1328 (2024).

[10] T. Strömberg, P. Schiansky, M. T. Quintino, M. Antesberger, L. A. Rozema, I. Agresti, Č. Brukner, and P. Walther. "Experimental superposition of a quantum evolution with its time reverse". *Phys. Rev. Research* **6**, 023071 (2024).

[11] L. Villegas-Aguilar, E. Polino, F. Ghafari, M. T. Quintino, K. T. Laverick, I. R. Berkman, S. Rogge, L. K. Shalm, N. Tischler, E. G. Cavalcanti, S. Slussarenko, and G. J. Pryde. "Nonlocality activation in a photonic quantum network". *Nat. Commun.* **15**, 3112 (2024).

[12] M. Antesberger, M. T. Quintino, P. Walther, and L. A. Rozema. "Higher-order process matrix tomography of a passively-stable quantum switch". *PRX Quantum* **5**, 010325 (2024).

[13] Q. Dong, M. T. Quintino, A. Soeda, and M. Murao. "The quantum switch is uniquely defined by its action on unitary operations". *Quantum* **7**, 1169 (2023).

[14] M. Renner and M. T. Quintino. "The minimal communication cost for simulating entangled qubits". *Quantum* **7**, 1149 (2023).

[15] T. Strömberg, P. Schiansky, R. Peterson, M. T. Quintino, and P. Walther. "Demonstration of a quantum SWITCH in a Sagnac configuration". *Phys. Rev. Lett.* **131**, 060803 (2023).

[16] D. Ebler, M. Horodecki, M. Marciniak, T. Młynik, M. T. Quintino, and M. Studziński. "Optimal universal quantum circuits for unitary complex conjugation". *IEEE Trans. Inf. Theory* **69**, 5069–5082 (2023).

[17] E.-C. Boghiu, F. Hirsch, P.-S. Lin, M. T. Quintino, and J. Bowles. "Device-independent and semi-device-independent entanglement certification in broadcast Bell scenarios". *SciPost Phys. Core* **6**, 028 (2023).

[18] M. Renner, A. Tavakoli, and M. T. Quintino. "The classical cost of transmitting a qubit". *Phys. Rev. Lett.* **130**, 120801 (2023).

[19] H.-Y. Ku, J. Kadlec, A. Cernoch, M. T. Quintino, W. Zhou, K. Lemr, N. Lambert, A. Miranowicz, S.-L. Chen, F. Nori, and Y.-N. Chen. "Quantifying quantumness of channels without entanglement". *PRX Quantum* **3**, 020338 (2022).

[20] J. Bavaresco, M. Murao, and M. T. Quintino. "Unitary channel discrimination beyond group structures: advantages of sequential and indefinite-causal-order strategies". *J. Math. Phys.* **63**, 042203 (2022).

[21] M. T. Quintino and D. Ebler. "Deterministic transformations between unitary operations: Exponential advantage with adaptive quantum circuits and the power of indefinite causality". *Quantum* **6**, 679 (2022).

[22] J. Bavaresco, M. Murao, and M. T. Quintino. "Strict hierarchy between parallel, sequential, and indefinite-causal-order strategies for channel discrimination". *Phys. Rev. Lett.* **127**, 200504 (2021).

[23] M. Nery, M. T. Quintino, P. A. Guérin, T. O. Maciel, and R. O. Vianna. "Simple and maximally robust processes with no classical common-cause or direct-cause explanation". *Quantum* **5**, 538 (2021).

[24] A. Sohbi, D. Markham, J. Kim, and M. T. Quintino. "Certifying dimension of quantum systems by sequential projective measurements". *Quantum* **5**, 472 (2021).

[25] Q. Dong, M. T. Quintino, A. Soeda, and M. Murao. "Success-or-draw: a strategy allowing repeat-until-success in quantum computation". *Phys. Rev. Lett.* **126**, 150504 (2021).

[26] W. Yokojima, M. T. Quintino, A. Soeda, and M. Murao. "Consequences of preserving reversibility in quantum superchannels". *Quantum* **5**, 441 (2021).

[27] M. Araújo, F. Hirsch, and M. T. Quintino. "Bell nonlocality with a single shot". *Quantum* **4**, 353 (2020).

[28] M. T. Quintino, Q. Dong, A. Shimbo, A. Soeda, and M. Murao. "Probabilistic exact universal quantum circuits for transforming unitary operations". *Phys. Rev. A* **100**, 062339 (2019).

[29] M. T. Quintino, Q. Dong, A. Shimbo, A. Soeda, and M. Murao. "Reversing unknown quantum transformations: universal quantum circuit for inverting general unitary operations". *Phys. Rev. Lett.* **123**, 210502 (2019).

[30] L. Guerini, M. T. Quintino, and L. Aolita. "Distributed sampling, quantum communication witnesses, and measurement incompatibility". *Phys. Rev. A* **100**, 042308 (2019).

[31] M. T. Quintino, C. Budroni, E. Woodhead, A. Cabello, and D. Cavalcanti. "Device-independent tests of structures of measurement incompatibility". *Phys. Rev. Lett.* **123**, 180401 (2019).

[32] J. Bavaresco, M. Araújo, Č. Brukner, and M. T. Quintino. "Semi-device-independent certification of indefinite causal order". *Quantum* **3**, 176 (2019).

[33] Q. Dong, M. T. Quintino, A. Soeda, and M. Murao. "Implementing positive maps with multiple copies of an input state". *Phys. Rev. A* **99**, 052352 (2019).

[34] F. Hirsch, M. T. Quintino, and N. Brunner. "Quantum measurement incompatibility does not imply Bell nonlocality". *Phys. Rev. A* **97**, 012129 (2018).

[35] J. Bavaresco, M. T. Quintino, L. Guerini, T. O. Maciel, D. Cavalcanti, and M. Cunha. "Most incompatible measurements for robust steering tests". *Phys. Rev. A* **96**, 022110 (2017).

[36] F. Hirsch, M. T. Quintino, T. Vértesi, M. Navascués, and N. Brunner. "Better local hidden variable models for two-qubit Werner states and an upper bound on the Grothendieck constant $K_G(3)$". *Quantum* **1**, 3 (2017).

[37] R. Ramanathan, M. T. Quintino, A. Sainz, G. Murta, and R. Augusiak. "Tightness of correlation inequalities with no quantum violation". *Phys. Rev. A* **95**, 012139 (2017).

[38] M. T. Quintino, M. Huber, and N. Brunner. "Super-activation of quantum steering". *Phys. Rev. A* **94**, 062123 (2016).

[39] F. Hirsch, M. T. Quintino, J. Bowles, T. Vértesi, and N. Brunner. "Entanglement without hidden nonlocality". *New J. Phys.* **18**, 113019 (2016).

[40] F. Hirsch, M. T. Quintino, T. Vértesi, M. Pusey, and N. Brunner. "Algorithmic construction of local hidden variable models for entangled quantum states". *Phys. Rev. Lett.* **117**, 190402 (2016).

[41] M. T. Quintino, J. Bowles, F. Hirsch, and N. Brunner. "Incompatible quantum measurements admitting a local hidden variable model". *Phys. Rev. A* **93**, 052115 (2016).

[42] J. Bowles, F. Hirsch, M. T. Quintino, and N. Brunner. "Sufficient criterion for guaranteeing that a two-qubit state is unsteerable". *Phys. Rev. A* **93**, 022121 (2016).

[43] M. T. Quintino, T. Vértesi, D. Cavalcanti, R. Augusiak, M. Demianowicz, A. Acín, and N. Brunner. "Inequivalence of entanglement, steering, and Bell nonlocality for general measurements". *Phys. Rev. A* **92**, 032107 (2015).

[44] J. Bowles, F. Hirsch, M. T. Quintino, and N. Brunner. "Local hidden variable models for entangled quantum states using finite shared randomness". *Phys. Rev. Lett.* **114**, 120401 (2015).

[45] M. T. Quintino, T. Vértesi, and N. Brunner. "Joint measurability, Einstein-Podolsky-Rosen steering, and Bell nonlocality". *Phys. Rev. Lett.* **113**, 160402 (2014).

[46] J. Bowles, T. Vértesi, M. T. Quintino, and N. Brunner. "One-way Einstein-Podolsky-Rosen steering". *Phys. Rev. Lett.* **112**, 200402 (2014).

[47] J. Bowles, M. T. Quintino, and N. Brunner. "Certifying the dimension of classical and quantum systems in a prepare-and-measure scenario with independent devices". *Phys. Rev. Lett.* **112**, 140407 (2014).

[48] F. Hirsch, M. T. Quintino, J. Bowles, and N. Brunner. "Genuine hidden quantum nonlocality". *Phys. Rev. Lett.* **111**, 160402 (2013).

[49] M. Araújo, M. T. Quintino, C. Budroni, M. Cunha, and A. Cabello. "All noncontextuality inequalities for the n-cycle scenario". *Phys. Rev. A* **88**, 022118 (2013).

[50] C. Teo, M. Araújo, M. T. Quintino, J. Minář, D. Cavalcanti, V. Scarani, M. Terra Cunha, and M. França Santos. "Realistic loophole-free Bell test with atom-photon entanglement". *Nat. Commun.* **4**, 2104 (2013).

[51] M. Araújo, M. T. Quintino, D. Cavalcanti, M. Santos, A. Cabello, and M. Cunha. "Tests of Bell inequality with arbitrarily low photodetection efficiency and homodyne measurements". *Phys. Rev. A* **86**, 030101 (2012).

[52] M. T. Quintino, M. Araújo, D. Cavalcanti, M. F. Santos, and M. T. Cunha. "Maximal violations and efficiency requirements for Bell tests with photodetection and homodyne measurements". *J. Phys. A: Math. Theor.* **45**, 215308 (2012).

Preprints

[53] F. Costa, G. Rubino, C. Branciard, Č. Brukner, and M. T. Quintino. "Indefinite Quantum Causality". *arXiv e-prints* (2026). arXiv:2606.19438 [quant-ph].

[54] K. S. Lien and M. T. Quintino. "Entanglement in quantum channel discrimination: sometimes less is more". *arXiv e-prints* (2026). arXiv:2605.31519 [quant-ph].

[55] M. Kvashchuk, P. Chernyshova, L. E. A. Porto, T.-A. Ohst, L. B. Vieira, and M. T. Quintino. "The most discriminable quantum states in the multicopy regime". *arXiv e-prints* (2026). arXiv:2604.26927 [quant-ph].

[56] L. E. A. Porto, L. Tendick, D. Cavalcanti, R. Uola, and M. T. Quintino. "Can every set of incompatible measurements lead to genuine multipartite steering?" *arXiv e-prints* (2026). arXiv:2603.25345 [quant-ph].

[57] V. Brzić, D. Grinko, M. Studziński, and M. T. Quintino. "Optimal pure state cloning and transposition are complementary channels". *arXiv e-prints* (2026). arXiv:2603.23628 [quant-ph].

[58] C. Eid and M. T. Quintino. "Post-measurement states are (very) useful for measurement discrimination". *arXiv e-prints* (2026). arXiv:2602.12258 [quant-ph].

[59] M. Baroni, D. Leichtle, I. Šupić, D. Markham, and M. T. Quintino. "Composable simultaneous purification: when all communication scenarios reduce to spatial correlations". *arXiv e-prints* (2026). arXiv:2601.05158 [quant-ph].

[60] V. Brzić, S. Yoshida, M. Murao, and M. T. Quintino. "Higher-order quantum computing with known input states". *arXiv e-prints* (2025). arXiv:2510.20530 [quant-ph].

[61] C. Vieira, C. de Gois, P. Lauand, L. E. A. Porto, S. Designolle, and M. T. Quintino. "Can outcome communication explain Bell nonlocality?" *arXiv e-prints* (2025). arXiv:2510.12886 [quant-ph].

[62] L. Tendick, C. Budroni, and M. T. Quintino. "Strict hierarchy between n-wise measurement simulability, compatibility structures, and multi-copy compatibility". *arXiv e-prints* (2025). arXiv:2506.21223 [quant-ph].

[63] P. Taranto, S. Milz, M. Murao, M. T. Quintino, and K. Modi. "Higher-order quantum operations". *arXiv e-prints* (2025). arXiv:2503.09693 [quant-ph].

[64] E. Polino, L. Villegas-Aguilar, D. Poderini, N. Walk, F. Ghafari, M. T. Quintino, A. Lyasota, S. Rogge, R. Chaves, G. J. Pryde, E. G. Cavalcanti, N. Tischler, and S. Slussarenko. "Experimental quantum randomness enhanced by a quantum network". *arXiv e-prints* (2024). arXiv:2412.16973 [quant-ph].

[65] A. Cabello, M. T. Quintino, and M. Kleinmann. "Possible consequences for physics of the negative resolution of Tsirelson's problem". *arXiv e-prints* (2023). arXiv:2307.02920 [quant-ph].

Theses and monographs

[66] M. T. Quintino. *Quantum entanglement and measurement incompatibility as resources for nonlocality*. PhD thesis. 2016. URL: https://archive-ouverte.unige.ch/unige:88093.

[67] M. T. Quintino. *Black box correlations: locality, noncontextuality, and convex polytopes*. MSc thesis. 2012. URL: https://repositorio.ufmg.br/handle/1843/BUOS-A46HJC.

[68] M. T. Quintino. *Não-localidade como recurso para comunicação*. BSc monograph presented at IMPA. 2010. URL: https://www.ime.unicamp.br/~tcunha/MonografiaMTulio.pdf.

Other publications

[69] M. T. Quintino. "Quantum teleportation beyond its standard form: Multi-Port-Based Teleportation". *Quantum Views* **5**, 56 (2021).

Teaching details

2025/2 **Lecture (20 h), Tutorial (6 h)**, *Sorbonne University, Master d'informatique - Information Quantique (IQ), M1*, Paris, France
MU4INQ05 - Quantum Circuits and Query Complexity

2025/1 **Lecture (20 h)**, *Sorbonne University, Master d'informatique - Information Quantique (IQ), M1*, Paris, France
MU4INQ51 - QIIntro

2025/1 **Tutorial (36.5 h)**, *Sorbonne University, Licence d'informatique, L3*, Paris, France
LU3IN030 - Introduction à la calculabilité et à la décidabilité

2024/2 **Lecture (4 h), Tutorial (2 h)**, *Sorbonne University, Master d'informatique - Information Quantique (IQ), M2*, Paris, France
MU5PYQ03 - QIT: Quantum Information Theory

2024/2 **Lecture (10 h), Tutorial (8 h)**, *Sorbonne University, Master d'informatique - Information Quantique (IQ), M1*, Paris, France
MU4INQ05 - Quantum Circuits and Logic Gates

2024/2 **Tutorial (38.5 h)**, *Sorbonne University, Licence d'informatique, L2*, Paris, France
LU2IN005 - Mathématiques Discrètes

2024/1 **Lecture (2 h)**, *4EU+ European University Alliance*, University of Copenhagen (online), Denmark
4EU+: Quantum Information and Quantum Many-Body Theory

2024/1 **Lecture (10 h), Tutorial (6 h)**, *Sorbonne University, Master d'informatique - Information Quantique (IQ), M1*, Paris, France
MU4INQ51 - QIIntro

2024/1 **Lecture (18 h), Tutorial (6 h)**, *Sorbonne University, Master Sciences, Technologies, Santé, M1*, Paris, France
MU4PY223 - Théorie de Shannon classique et quantique

2024/1 **Tutorial (36.5 h)**, *Sorbonne University, Licence d'informatique, L3*, Paris, France
LU3IN030 - Introduction à la calculabilité et à la décidabilité

2023/2 **Lecture (4 h), Tutorial (2 h)**, *Sorbonne University, Master d'informatique - Information Quantique (IQ), M2*, Paris, France
MU5PYQ03 - QIT: Quantum Information Theory

2023/2 **Lecture (10 h), Tutorial (6 h)**, *Sorbonne University, Master d'informatique - Information Quantique (IQ), M1*, Paris, France
MU4INQ05 - Quantum Circuits and Logic Gates

2023/2 **Tutorial (38.5 h)**, *Sorbonne University, Licence d'informatique, L2*, Paris, France
LU2IN005 - Mathématiques Discrètes

2023/1 **Lecture (15 h), Tutorial (15 h)**, *Sorbonne University, Master Sciences, Technologies, Santé, M1*, Paris, France
MU4PY223 - Théorie de Shannon classique et quantique

2023/1 **Tutorial (36.5 h)**, *Sorbonne University, Licence d'informatique, L3*, Paris, France
LU3IN030 - Introduction à la calculabilité et à la décidabilité

2022/2 **Tutorial (36.5 h)**, *Sorbonne University, Licence d'informatique, L2*, Paris, France
LU2IN005 - Mathématiques Discrètes

2022/2 **Lecture (2 h), Tutorial (16 h)**, *Sorbonne University, Master d'informatique - Information Quantique (IQ), M1*, Paris, France
MU4INQ01 - Quantum Kinematics for Computer Scientists

2022/2 **Tutorial (14 h)**, *Sorbonne University, Master d'informatique - Parcours Science et Technologie du Logiciel (STL), M2*, Paris, France
MU5IN550 - Analyse d'algorithmes et génération aléatoire

2022/2 **Lecture (6 h), Tutorial (4 h)**, *Sorbonne University, Master d'informatique - Information Quantique (IQ), M2*, Paris, France
MU5PYQ03 - QIT: Quantum Information Theory

2021 **One lecture**, *Semana da Física 2021 – UNESP*, Guaratinguetá (online), Brazil
Não-localidade de Bell: como o indeterminismo quântico permite correlações supra-clássicas

2019 **One lecture**, *The University of Tokyo*, Tokyo, Japan
What do you mean by random? Randomness, Quantum Mechanics, and Bell Non-locality – Undergraduate course in quantum technology

2016/1 **Teaching Assistant**, *Université de Genève*, Geneva, Switzerland
Quantum Information Theory – master's course

2015/2 **Teaching Assistant**, *Université de Genève*, Geneva, Switzerland
Méthodes mathématiques pour physiciens I – undergraduate course

2015/1 **Teaching Assistant**, *Université de Genève*, Geneva, Switzerland
Quantum Information Theory – master's course

2014/1 **Teaching Assistant**, *Université de Genève*, Geneva, Switzerland
Quantum Information Theory – master's course

2013/1 **Teaching Assistant**, *Université de Genève*, Geneva, Switzerland
Quantum Information Theory – master's course

2011/1 **Teaching Assistant**, *IMPA*, Rio de Janeiro, Brazil
Mecânica quântica para matemáticos em formação – 28º Colóquio Brasileiro de Matemática

2011 **One lecture**, *UFMG*, Belo Horizonte, Brazil
Comunicação via qubits – XXII Escola de Inverno

2010 **One lecture**, *UFMG*, Belo Horizonte, Brazil
Desigualdades de Bell, uma introdução à não-localidade quântica – Quantum Mechanics Graduate Course