

# Marco Túlio Quintino

## Curriculum Vitae

*IQOQI – Vienna  
Vienna, Austria*

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📄 [mtcq.github.io](https://mtcq.github.io)

*Birth: 19-Feb-1988*

*Citizenship: Brazilian*



Last update: April 18, 2022

### Research Interests

Quantum information, quantum circuits, higher-order operations, indefinite causality, nonlocal games, Bell nonlocality, EPR steering, quantum entanglement, measurement incompatibility foundations of quantum mechanics, quantum discrimination tasks.

### Research Positions

- Mar 2021 – **Postdoctoral researcher**, *IQOQI Vienna*, Vienna, Austria.  
present Postdoctoral Researcher at the group of [Prof. Časlav Brukner](#)  
Funding: [ESQ postdoc fellowship](#)
- Jun 2020 – **Postdoctoral researcher**, *University of Vienna*, Vienna, Austria.  
Mar 2021 Postdoctoral Researcher at the group of [Prof. Časlav Brukner](#)  
Funding: [Austrian Science Fund \(FWF\)](#) through the [SFB project BeyondC](#)
- Nov 2016 – **Postdoctoral researcher**, *The University of Tokyo*, Tokyo, Japan.  
May 2020 Postdoctoral Researcher at the group of [Prof. Mio Murao](#)  
Funding: [Q-LEAP project of the MEXT Japan](#)
- Nov 2016 – **Postdoctoral researcher**, *The University of Tokyo*, Tokyo, Japan.  
May 2020 Postdoctoral Researcher at the group of [Prof. Mio Murao](#)  
Funding: [JSPS postdoc fellowship](#)

### Education

- Oct 2012 – **PhD in Physics**, *Université de Genève*, Geneva, Switzerland.  
Sep 2016 Thesis: [Quantum entanglement and measurement incompatibility as resources for nonlocality](#)  
Defence date: 09 Sep 2016  
Supervisor: [Nicolas Brunner](#)  
Funding: [SNF](#), Switzerland
- Aug 2010 – **MSc in Physics**, *UFMG*, Belo Horizonte, Brazil.  
Sep 2012 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– **BSc in Physics**, *UFMG*, Belo Horizonte, Brazil.  
Aug 2010 Monograph: [Não-localidade como recurso para comunicação](#)  
Supervisor: [Marcelo Terra Cunha](#)  
Funding: [CNPq](#), Brazil

## Grants and awards

- 2020 **Postdoc research fellowship**, *ESQ Postdoc Fellowship Program*, Austria/EU.
- 2016 **Grant-In-Aid for Scientific Research**, *KAKENHI*, Japan.
- 2016 **Postdoc research fellowship**, *JSPS Postdoc Fellowship*, Japan.

## Languages

Portuguese (native), English (fluent), French (fluent), Spanish: (advanced), Japanese, (intermediate) Matlab (fluent), Mathematica (fluent), Python (intermediate), Bash (basic), Java (basic), C (basic)  
I use GitHub (<https://github.com/mtcq>) to share relevant computational code I develop.

## Publications

**Summary:** 33 peer-reviewed journal publications which include 10 Physical Review Letters and 1 Nature Communication. 3 articles in peer-reviewing process and more than 50 different co-authors. *Google Scholar* counts over 1500 citations, 5 papers with more than 100 citations, an h-index of 19, and an i10-index of 25 (as of April 2022).

All my scientific papers are available at *arXiv* and at my *personal website*.

### Peer-reviewed publications

- [1] 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).
- [2] M.T. Quintino and Daniel Ebler. "Deterministic transformations between unitary operations: Exponential advantage with adaptive quantum circuits and the power of indefinite causality". *Quantum* **6** 679 (2022).
- [3] 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).
- [4] A. Sohbi, D. Markham, J. Kim, and M.T. Quintino. "Certifying dimension of quantum systems by sequential projective measurements". *Quantum* **5** 472 (2021).
- [5] 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).
- [6] 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).
- [7] M. Araújo, F. Hirsch, and M.T. Quintino. "Bell nonlocality with a single shot". *Quantum* **4** 353 (2020).
- [8] W. Yokojima, M.T. Quintino, A. Soeda, and M. Murao. "Consequences of preserving reversibility in quantum superchannels". *Quantum* **5** 441 (2021).
- [9] 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).
- [10] 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).

- [11] 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).
- [12] L. Guerini, M.T. Quintino, and L. Aolita. “Distributed sampling, quantum communication witnesses, and measurement incompatibility”. *Phys. Rev. A* **100** 042308 (2019).
- [13] J. Bavaresco, M. Araújo, Č. Brukner, and M.T. Quintino. “Semi-device-independent certification of indefinite causal order”. *Quantum* **3** 176 (2019).
- [14] 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).
- [15] F. Hirsch, M.T. Quintino, and N. Brunner. “Quantum measurement incompatibility does not imply Bell nonlocality”. *Phys. Rev. A* **97** 012129 (2018).
- [16] J. Bavaresco, M.T. Quintino, L. Guerini, T. O. Maciel, D. Cavalcanti, and M.T. Cunha. “Most incompatible measurements for robust steering tests”. *Phys. Rev. A* **96** 022110 (2017).
- [17] M.T. Quintino, M. Huber, and N. Brunner. “Super-Activation of Quantum Steering”. *Phys. Rev. A* **94** 062123 (2016).
- [18] 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).
- [19] R. Ramanathan, M.T. Quintino, A.B. Sainz, G. Murta, and R. Augusiak. “Tightness of correlation inequalities with no quantum violation”. *Phys. Rev. A* **95** 012139 (2017).
- [20] F. Hirsch, M.T. Quintino, J. Bowles, T. Vértesi, and N. Brunner. “Entanglement without hidden nonlocality”. *New J. Phys.* **18** 113019 (2016).
- [21] F. Hirsch, M.T. Quintino, T. Vértesi, M.F. Pusey, and N. Brunner. “Algorithmic Construction of Local Hidden Variable Models for Entangled Quantum States”. *Phys. Rev. Lett.* **117** 190402 (2016).
- [22] 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).
- [23] 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).
- [24] 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).
- [25] 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).
- [26] M.T. Quintino, T. Vértesi, and N. Brunner. “Joint Measurability, Einstein-Podolsky-Rosen Steering, and Bell Nonlocality”. *Phys. Rev. Lett.* **113** 160402 (2014).
- [27] J. Bowles, T. Vértesi, M.T. Quintino, and N. Brunner. “One-way Einstein-Podolsky-Rosen Steering”. *Phys. Rev. Lett.* **112** 200402 (2014).
- [28] 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).

- [29] F. Hirsch, M.T. Quintino, J. Bowles, and N. Brunner. “Genuine Hidden Quantum Nonlocality”. *Phys. Rev. Lett.* **111** 160402 (2013).
- [30] M. Araújo, M.T. Quintino, C. Budroni, M.T. Cunha, and A. Cabello. “All noncontextuality inequalities for the n-cycle scenario”. *Phys. Rev. A* **88** 022118 (2013).
- [31] 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”. *Nature Communications* **4** 2104 (2013).
- [32] M. Araújo, M.T. Quintino, D. Cavalcanti, M. F. Santos, A. Cabello, and M.T. Cunha. “Tests of Bell inequality with arbitrarily low photodetection efficiency and homodyne measurements”. *Phys. Rev. A* **86** 030101 (2012).
- [33] 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* **45** 215308 (2012).

#### Under review

- [34] Q. Dong, M.T. Quintino, A. Soeda, and M. Murao. *The quantum switch is uniquely defined by its action on unitary operations*. 2021. arXiv:2106.00034 [quant-ph].
- [35] 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. *Detecting quantum non-breaking channels without entanglement*. 2021. arXiv:2106.15784 [quant-ph].
- [36] 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*. 2021. arXiv:2111.06358 [quant-ph].

#### Thesis and monographs

- [37] M. T. Quintino. *Quantum Entanglement and Measurement Incompatibility as Resources for Nonlocality*. PhD Thesis. 2016. URL: <http://archive-ouverte.unige.ch/unige:88093>.
- [38] M. T. Quintino. *Black Box Correlations: Locality, Noncontextuality, and Convex Polytopes*. MSc Thesis. 2012. URL: <https://repositorio.ufmg.br/handle/1843/BUOS-A46HJC>.
- [39] M. T. Quintino. *Não-localidade como recurso para comunicação*. BSc monograph presented at IMPA. 2010. URL: <https://www.ime.unicamp.br/~tcunha/MonografiaMTulio.pdf>.

#### Others

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

### Research supervising experience

I have co-supervised two PhD student and four master students. Also, I have worked in close relation with several students (undergrad, master, and PhD) with different backgrounds at various institutions.

Jun 2017 – **PhD co-supervisor**, UFMG, Belo Horizonte, Brazil.

Jan 2022 Marcello Nery

Article: [Simple and maximally robust processes with no classical common-cause or direct-cause explanation](#) – *Quantum* (2021)

PhD Thesis: Non-classical common-cause and direct-cause

- Jan 2018 – **PhD co-supervisor**, *The University of Tokyo*, Tokyo, Japan.  
 Dec 2020 Qingxiuxiong Dong  
 Article: [Success-or-Draw: A Strategy Allowing Repeat-Until-Success in Quantum Computation – Phys. Rev. Lett. \(2021\)](#)  
 MSc Thesis: Quantum algorithms for higher-order quantum transformations of universal unitary operations
- Jul 2018 – **MSc co-supervisor**, *The University of Tokyo*, Tokyo, Japan.  
 Jul 2020 Wataru Yokojima  
 Article: [Consequences of preserving reversibility in quantum superchannels – Quantum \(2021\)](#)
- Jun 2017 – **MSc co-supervisor**, *The University of Tokyo*, Tokyo, Japan.  
 Jan 2018 Qingxiuxiong Dong  
 Article: [Implementing positive maps with multiple copies of an input state – Phys. Rev. A \(2019\)](#)  
 MSc Thesis: Quantum implementability of maps and supermaps
- Aug 2015 – **MSc co-supervisor**, *UFMG*, Belo Horizonte, Brazil.  
 Aug 2016 Jessica Bavaresco  
 Article: [Most incompatible measurements for robust steering tests – Phys. Rev. A \(2017\)](#)  
 MSc Thesis: [When Bob Cannot Trust Alice. A Semi-Device-Independent Tale of Quantum Steering](#)
- Jan 2015 – **MSc co-supervisor**, *University of Geneva*, Geneva, Switzerland.  
 June 2013 Flavien Hirsch  
 Article: [Genuine hidden quantum nonlocality – Phys. Rev. Lett. \(2013\)](#)

## Teaching Experience

- 2021 **One lecture**, *Semana da Física 2021 – UNESP*, Caratinguetá (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 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 Course
- 2014/1 **Teaching Assistant**, *Université de Genève*, Geneva, Switzerland.  
 Quantum Information Theory – Master Course
- 2013/1 **Teaching Assistant**, *Université de Genève*, Geneva, Switzerland.  
 Quantum Information Theory – Master 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 a não-localidade quântica – Quantum Mechanics Graduate Course
- 2010 **One lecture**, *UFMG*, Belo Horizonte, Brazil.  
Desigualdades de Bell, uma introdução a não-localidade quântica – Quantum Mechanics Graduate Course

### Participation in examination board

- 03 Feb 2022 **PhD Thesis defence**, *UNICAMP*, Campinas, Brazil.  
Roberto Dóbal Baldijão – Quantum Darwinism And Contextuality
- 09 Apr 2021 **MSc Thesis defence**, *UNICAMP*, Campinas, Brazil.  
Lucas da S. Pollyceno – Novos critérios para o princípio da causalidade de informação

### Outreach and dissemination

During my JSPS postdoc in Japan, I have 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**, Nagano prefecture Suwa-Seiryō High School, Japan.  
What do you mean by random? Randomness, Quantum Mechanics, and Bell Non-locality
- 05 Dec 2017 **JSPS Science Dialogue**, Ibaraki prefecture Takezono High School, Japan.  
What do you mean by random? Randomness, Quantum Mechanics, and Bell Non-locality
- 07 Jan 2013 **Science Slam Berlin**, SO36, Berlin, Germany.  
Does God play dice? Genuine randomness in nature

### Reviewing activities

**Referee for the journals:** PRL, PRX, PRX Quantum, PRA, PRRsearch, Quantum, NJP, J. Phys. A, npj Quantum Information, Optica.

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

### Scientific Conferences

#### Invited Talk

- Mar 2020 **The Order of Things (TOOT)**, Obergurgl, Austria.  
Conference cancelled due to COVID19 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
- Oct 2017 **FQXi Workshop: Quantum Incompatibility**, Laach Lake, Germany.  
Talk: Genuine n-wise Measurement Incompatibility and Device Independent Certificates of Incompatibility

### Contributed Talk

- 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 outperforms 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
- Jun 2019 **Quantum Information (Benasque)**, Benasque, Spain.  
Workshop without formal talks
- Sep 2018 **post AQIS18**, Nagoya, Japan.  
Talk: Reversing unknown quantum transformations
- 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
- Jun 2017 **Quantum Information (Benasque)**, Benasque, Spain.  
Workshop without formal talks
- 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 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
- Jun 2015 **Quantum Information (Benasque)**, Benasque, Spain.  
Workshop without formal talks
- 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 2013 **Quantum Information (Benasque)**, Benasque, Spain.  
Workshop without formal talks
- Jun 2012 **Workshop on Quantum Correlations**, Natal, Brazil.  
Talk: All noncontextuality inequalities for the n-cycle scenario
- Dez 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 presentation
- Sep 2021 **Time in quantum theory, ETH workshop**, Zurich (online), Switzerland.  
Poster: Universal quantum circuits for transforming unitary operations: exponential advantages with causality 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 causality 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 outperforms 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 variables systems
- May 2012 **TQC2012**, Tokyo, Japan.  
Poster: Perfect homodyne measurements implies 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**, RJ, 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 to the top 8%
- Oct 2008 **XVII Semana da Iniciação Científica, UFMG**, Belo Horizonte, Brazil.  
Poster: Números Inteiros e Criptografia RSA

Participation



- Sep 2015 **Gisin's 60th birthday workshop**, Riederalp, Switzerland.
- Jul 2012 **62nd Lindau Nobel Laureate Meeting dedicated to Physics**, Lindau, Germany.
- 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

- 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
- 05 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**, BH, 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 **PI**, Waterloo, Canada.  
Talk: Joint Measurability, EPR Steering, and Bell Nonlocality  
Host: Matthew Pusey
- 09 Oct 2014 **ICFO**, Barcelona, Spain.  
Talk: Joint Measurability, EPR Steering, and Bell Nonlocality  
Host: Antonio Ácin
- 05 Sep 2014 **KCIK**, Gdansk, 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
- 03 Dec 2013 **UFMG**, Belo Horizonte, Brazil.  
Genuine Hidden Quantum Nonlocality  
Host: Marcelo Terra Cunha
- 19 Jul 2012 **KCIK**, Gdansk, 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