Daniel Stilck França

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	Copenhagen, Denmark	**ORCID**	0000-0001-9699-5994

Personal Profile

Born on the 13^{th} of December 1991 in São Paulo, Brazil.
Brazilian and German citizen.

Education

04.15-09.18 Dr. rer. nat. - Technical University of Munich, Germany
Thesis Irreversibility in Quantum Information Theory
Supervisor Prof. Michael M. Wolf

10.14-03.15 M.Sc. in Mathematics (with honors) - Technical University of Munich, Germany

04.11-09.13 B.Sc. (with honors) - Technical University of Munich, Germany
Major Mathematics
Minor Physics

Research Interests

- Quantum: algorithms, learning, information theory. Mathematical physics and optimization.

Employment History

09.24- Quantum for Life, Department of Mathematical Sciences, University of Copenhagen
Associate Professor

04.22-08.24 LIP, Department of Computer Science, École Normale Supérieure de Lyon
Inria Starting Faculty Position ***(on leave)***

The Inria Starting Faculty Position is an unlimited-term contract position associated with a teaching service in an Inria partner higher education institution. It is similar in spirit to an Assistant Professorship. I am a member of the QInfo team

03.22-08.23 Zapata Quantum Computing
Consulting and research on quantum algorithms

Zapata is a US-based quantum startup. I worked with them on the development of quantum algorithms that have lower requirements on quantum hardware.

09.18-03.22 QMATH, Department of Mathematical Sciences, University of Copenhagen
Postdoc

Postdoc at the QMATH research center under the supervision of Prof. Matthias Christandl.

04.13 Technical University of Munich, Germany
07.18 *Teaching Assistant*

Teaching assistant for different lectures given by the Mathematical Physics Department at the Technical University of Munich.

Language Skills

German (native), Portuguese (native), English (full professional proficiency), French (intermediate proficiency).

Teaching Experience

- *Advanced Vector Spaces*, course responsible, University of Copenhagen, fall 2026. MSc course, 7.5 ECTS, block 1, covering linear and multilinear algebra, bilinear forms, tensor products, spectral decompositions, Hilbert spaces, bounded operators, and related proof-based topics.
- *Large-Scale Simulations of Quantum Systems*, module responsible, University of Copenhagen, 2026–2027. I will be responsible for the module on quantum simulation on quantum computers within this MSc course on quantum computing and large-scale classical simulation of quantum systems.
- *Quantum Computer Science*, Lecturer, ENS Lyon, 2022–2023 and 2023–2024, evaluated as very good / almost perfect.
- *Introduction to Quantum Computing*, Lecturer, University of Copenhagen, 2021, good/excellent evaluation: 80%.
- *Introduction to Quantum Computing*, Lecturer, University of Copenhagen, 2020, good/excellent evaluation: 75%.
- *Introduction to LaTeX*, Lecturer, University of Copenhagen, 2019.
- Teaching assistant for various courses at Technical University of Munich, including Analysis 1, 2, 3 and 4 for Physicists, Mathematical Modelling and Markov Chains.

Community Work

Program committee chair of: QCTIP 24
Program committee member of: QTURN 2020, QCTIP22, Beyond IID 2022, TQC 2023, QIP 2024, TQC 2025, BIID 2025, QIP 2026, QCTIP 2026.
Organizer of: Workshop on Fundamental Limitations to Quantum Computation. Banff, Canada, main organizer, March 2024.
Lyon-Singapore Quantum Information Meeting. Co-organizer, June 2023.
SIAM AG 21 Minisymposia on Tensor Networks and Geometry. Involved in all aspects of the organization, July 2021.
Referee for: Annales Henri Poincaré, Communications in Mathematical Physics, IEEE Transactions on Information Theory, Journal of Mathematical Physics, Journal of Physics A: Mathematical and Theoretical, PRX Quantum, Quantum, ACM Transactions on Quantum Computing, Physical Review Letters, Nature.

Funding

This is the conventional grant record; see *Financial Contribution* below for the consolidated DKK picture and prospective pipeline.

2026 PROQSY, Horizon Europe MSCA European Postdoctoral Fellowship. (263k Euros).
2025-2030 GIFNEQ (Gibbs framework for near-term quantum computing), ERC Starting Grant. (1500k Euros).
2025 PhD Scholarship Quantum Algorithms, Danish e-Infrastructure Cooperation (DeIC). (352k Euros).
2025 Training for Large-Scale Simulations of Quantum Systems.

	DeIC Q-Competence grant (507k Euros); consortium member, PI: Mark Kamper Svendsen.
2023-2027	TouQan (Towards a useful quantum advantage), QuantEra 2023. (300k Euros).
2023-2027	Hybrid HPC Quantum Initiative, French PEPR. (336k Euros, coordinator of 3000k Euros work package).
2022-2025	Equality (Efficient QUantum ALgorithms for IndusTrY), Horizon Europe grant. (250k Euros).

Awards and Scholarships

2025	”Brazilian to watch out for” by Estadão, a major Brazilian newspaper.
2023	Best poster award for my student E. Beatty at Beyond IID conference for our joint work.
2018	Journal of Physics A: Mathematical and Theoretical, Reviewer of 2018
2011-2016	Full DAAD (German Academic Exchange Service) Scholarship
2016	Hurwitz Society Prize for exceptional master’s thesis

Outreach

Selected popular science articles featuring my work:

- My profile published in Estadão newspaper (in Portuguese).
- Press release for ERC Starting Grant.
- Phys.org article on error mitigation paper.
- Phys.org: How noise limits today’s quantum circuits.
- Physics World: Conquering the challenge of quantum optimization.
- Quanta Magazine: Computer Scientists Prove That Heat Destroys Quantum Entanglement, mentioning my work on quantum Gibbs sampling.
- Nature Computational Science research highlight: Analyzing noise for quantum advantage.

Talks and round tables: I frequently give talks and participate in round tables on quantum technologies for the Danish business and scientific community. These activities are usually reported on my LinkedIn page.
YouTube channel: monthly interviews on Canal Resistentes (in Portuguese, 25,000 subscribers).

Group Members

Current members

- Zhong-Xia Shang, postdoc.
- Roberto Rubboli, postdoc (since 10.2025).
- Sam Slezak, postdoc (since 10.2025).
- Yufei Wang, PhD student.
- Tim Madsen, PhD student. Co-supervised with Rolf Poulsen.

Former members

- Emily Beatty, PhD student (2022–2026, ENS Lyon). Co-supervised with Guillaume Aubrun. Now software developer at Bending Spoons.
- Victor Martinez, PhD student (2023–2026, ENS Lyon). Co-supervised with Omar Fawzi. Now permanent researcher at IBM Quantum Zurich.
- Ngoc Hoang Anh Mai, postdoc (11.2023–10.2025). Now permanent researcher at VAST, Hanoi, Vietnam.

Financial Contribution

Headline: I currently bring in roughly 16 MDKK in conservatively attributed confirmed external funding, or about 20 MDKK if the full Large-Scale Simulations consortium grant is counted, with a submitted and in-preparation pipeline of 54–59 MDKK. EUR amounts are converted at approximately 1 EUR = 7.46 DKK.

Financial summary

Category	Amount	Status	Departmental relevance
ERC Starting Grant GIFNEQ	11.2 MDKK	Confirmed	Covers 50% PI salary through June 2030
PROQSY MSCA postdoc	2.0 MDKK	Confirmed	Postdoc at MATH
DeIC PhD scholarship	2.6 MDKK	Confirmed	PhD funding
DeIC Large-Scale Simulations	0.5–3.8 MDKK	Confirmed	Teaching/module role
RQA Innovation Fund	39.8 MDKK requested	Under review	Co-PI / MATH PI team
QRI DeIC	3.0 MDKK requested	Under review	Quantum education
DeIC Algorithm Academy postdoc	3.26 MDKK requested	Under review	Hosted postdoc
Keio/Japan collaboration	Up to 8 MDKK target	In preparation	International quantum partnership, leading project

Confirmed funding

My confirmed portfolio includes GIFNEQ, my ERC Starting Grant (about 11.2 MDKK, 1 July 2025–30 June 2030), PROQSY, the Horizon Europe MSCA European Postdoctoral Fellowship starting in January 2027 (about 2.0 MDKK), the DeIC PhD Scholarship Quantum Algorithms (about 2.6 MDKK), and my module responsibility in the DeIC Large-Scale Simulations of Quantum Systems grant (conservatively counted at about 0.5 MDKK; the full consortium grant is about 3.8 MDKK). GIFNEQ covers 100% of eligible project costs and budgets 50% of my PI salary through June 2030. Ohter grants from QMATH cover other 30%. Against this confirmed inflow, the department's marginal salary commitment for me through mid-2030 is modest (20%).

Submitted and under review

- **Reliable Quantum Algorithms (RQA), Innovation Fund Denmark Grand Solutions.** I am a co-PI on this application led by Laura Mancinska. The project runs from 1 January 2027 to 31 December 2031 and requests 39.823 MDKK from Innovation Fund Denmark on a total budget of 44.448 MDKK. My involvement is in the Department of Mathematical Sciences PI team, contributing to the Gibbs sampling, robust Hamiltonian estimation, benchmarking, and quantum-algorithm components.
- **Quantum Readiness for Innovation (QRI), DeIC.** This two-year 2027–2028 application requests 3.000 MDKK from DeIC on a total budget of 3.050 MDKK. I will be course responsible for the MSc Quantum Innovation course, connecting quantum information science, quantum computing, innovation, entrepreneurship, and career development.
- **Danish Quantum Algorithm Academy postdoc for Zhong-Xia Shang, DeIC.** This application requests 3.256 MDKK including overhead for a 36-month postdoc from 1 September 2026 to 31 August 2029 on adiabatic dissipative quantum optimisation. I am the host mentor at the Department of Mathematical Sciences.

In preparation

- **Innovation Fund Denmark Global Research Collaborations with Keio University.** I am preparing and leading a joint application with researchers at Keio University, an opportunity that arose from a visit from Keio University that I arranged. The call supports Danish collaborations with research organisations in Japan, Canada, or South Korea in strategic areas including quantum technologies. The call budget is at least 49 MDKK; individual projects run for 2–4 years; Innovation Fund Denmark can invest 2–8 MDKK per project at up to 90% of eligible costs. A reasonable target is to request the full 8 MDKK, corresponding to a project budget of at least about 8.9 MDKK with 10% co-financing. The deadline is 3 September 2026, with decisions expected in mid December 2026.

Approved strategic role

- **QSTAR – Centre for Quantum Computing and Applications.** QSTAR is an approved five-year centre hosted by SINTEF with QMATH as an international research partner. I will take over Matthias Christandl's QMATH responsibilities while he is on sabbatical, contributing to the fault-tolerance, algebraic methods, quantum algorithms, representation theory, PhD training, and Nordic exchange components.

The prospective pipeline above amounts to about 54 MDKK in requested or hosted funding.
Updated May 21, 2026.

Publications and Preprints

My publication record currently comprises 38 published or accepted publications, including 35 journal articles (9 in Nature Portfolio journals) and 3 peer-reviewed conference proceedings. Of the 35 journal articles, 31 are in first-quarter journals in their areas according to SCImago, and I have 11 preprints currently under review. You may find preprints of all my publications on the arXiv and a list of my publications at Google Scholar or ORCID.

Published Articles

1. V. Martinez, O. Fawzi, D. Stilck França.
   Sampling (noisy) quantum circuits through randomized rounding
   Quantum, 10:2068, (2026).

2. A. A. Mele, A. Angrisani, S. Ghosh, S. Khatri, J. Eisert, D. Stilck França, Y. Quek.
   Noise-induced shallow circuits and the absence of barren plateaus
   Nature Physics, 1–6, (2026).

3. E. Beatty, D. Stilck França.
   Order-p quantum Wasserstein distances from couplings
   Annales Henri Poincaré, 27(3):787–845, (2026).

4. C. Rouzé, D. Stilck França, Á. M. Alhambra.
   Optimal quantum algorithm for Gibbs state preparation
   Physical Review Letters, 136(6):060601, (2026).

5. C. Rouzé, D. Stilck França, Á. M. Alhambra.
   Efficient thermalization and universal quantum computing with quantum Gibbs samplers
   Nature Physics, published online 15 April 2026, (2026).

6. R. Ibarrondo, D. Stilck França.
   Average contraction coefficients of quantum channels
   Communications in Mathematical Physics, accepted, (2026).

7. M. Fanizza, C. Rouzé, D. Stilck França.
   Efficient Hamiltonian, structure and trace distance learning of Gaussian states
   Nature Communications, accepted, (2026).

8. J. J. Meyer, S. Khatri, D. Stilck França, J. Eisert, P. Faist.
   Quantum metrology in the finite-sample regime
   PRX Quantum, 6(3):030336, (2025).

9. V. Martinez, A. Angrisani, E. Pankovets, O. Fawzi, D. Stilck França.
   Efficient simulation of parametrized quantum circuits under nonunital noise through Pauli backpropagation
   Physical Review Letters, 134(25):250602, (2025).

10. C. Rouzé, D. Stilck França, Á. M. Alhambra.
    Efficient thermalization and universal quantum computing with quantum Gibbs samplers
    Proceedings of the 57th Annual ACM Symposium on Theory of Computing (STOC), 1488–1495, (2025).

11. O. Fawzi, A. Oufkir, D. Stilck França.
    Lower bounds on learning Pauli channels with individual measurements
    IEEE Transactions on Information Theory, 71(4):2642–2661, (2025).

12. G. Wang, D. Stilck França, G. Rendon, P. D. Johnson.
    Efficient ground-state-energy estimation and certification on early fault-tolerant quantum computers
    Physical Review A, 111(1):012426, (2025).

13. Y. Quek, D. Stilck França, S. Khatri, J. J. Meyer, J. Eisert.
    Exponentially tighter bounds on limitations of quantum error mitigation
    Nature Physics, 20(10):1648–1658, (2024).

14. C. Rouzé, D. Stilck França, E. Onorati, J. D. Watson.
Efficient learning of ground and thermal states within phases of matter
Nature Communications, 15:7755, (2024).

15. D. Harley, I. Datta, F. Ravn Klausen, A. Bluhm, D. Stilck França, A. H. Werner, M. Christandl.
Going beyond gadgets: the importance of scalability for analogue quantum simulators
Nature Communications, 15:6527, (2024).

16. M. C. Caro, T. Gur, C. Rouzé, D. Stilck França, S. Subramanian.
Information-theoretic generalization bounds for learning from quantum data
Proceedings of the 37th Conference on Learning Theory (COLT), 775–839, (2024).

17. C. Rouzé, D. Stilck França.
Learning quantum many-body systems from a few copies
Quantum, 8:1319, (2024).

18. D. Stilck França, L. A. Markovich, V. V. Dobrovitski, A. H. Werner, J. Borregaard.
Efficient and robust estimation of many-qubit Hamiltonians
Nature Communications, 15:311, (2024).

19. G. Wang, D. Stilck França, R. Zhang, S. Zhu, P. D. Johnson.
Quantum algorithm for ground state energy estimation using circuit depth with exponentially improved dependence on precision
Quantum, 7:1167, (2023).

20. C. Hirche, C. Rouzé, D. Stilck França.
Quantum differential privacy: An information theory perspective
IEEE Transactions on Information Theory, 69(9):5771–5787, (2023).

21. G. De Palma, M. Marvian, C. Rouzé, D. Stilck França.
Limitations of variational quantum algorithms: a quantum optimal transport approach
PRX Quantum, 4(1):010309, (2023).

22. C. Hirche, C. Rouzé, D. Stilck França.
On contraction coefficients, partial orders and approximation of capacities for quantum channels
Quantum, 6:862, (2022).

23. D. Stilck França, R. García-Patrón.
A game of quantum advantage: linking verification and simulation
Quantum, 6:753, (2022).

24. F. G. S. L. Brandão, R. Kueng, D. Stilck França.
Faster quantum and classical SDP approximations for quadratic binary optimization
Quantum, 6:625, (2022).

25. D. Stilck França, R. García-Patrón.
Limitations of optimization algorithms on noisy quantum devices
Nature Physics, 17(11):1221–1227, (2021).

26. D. Stilck França, S. Strelchuk, M. Studziński.
Efficient classical simulation and benchmarking of quantum processes in the Weyl basis
Physical Review Letters, 126(21):210502, (2021).

27. M. Christandl, F. Gesmundo, D. Stilck França, A. H. Werner.
Optimization at the boundary of the tensor network variety
Physical Review B, 103(19):195139, (2021).

28. I. Bardet, M. Junge, N. Laracuente, C. Rouzé, D. Stilck França.
Group transference techniques for the estimation of the decoherence times and capacities of quantum Markov semigroups
IEEE Transactions on Information Theory, 67(5):2878–2909, (2021).

29. J. Borregaard, M. Christandl, D. Stilck França.
Noise-robust exploration of many-body quantum states on near-term quantum devices
npj Quantum Information, 7:45, (2021).

30. D. Stilck França, F. G. S. L. Brandão, R. Kueng.
Fast and robust quantum state tomography from few basis measurements
Proceedings of the 16th Conference on the Theory of Quantum Computation, Communication and Cryptography (TQC), LIPIcs 197, 7:1–7:13, (2021).

31. A. Bluhm, M. Christandl, F. Gesmundo, F. Ravn Klausen, L. Mančinska, V. Steffan, D. Stilck França, A. H. Werner.
SARS-CoV-2 transmission routes from genetic data: A Danish case study
PLOS ONE, 15(10):e0241405, (2020).

32. E. P. Hanson, C. Rouzé, D. Stilck França.
Eventually entanglement breaking Markovian dynamics: Structure and characteristic times
Annales Henri Poincaré, 21(5):1517–1571, (2020).

33. A. Bluhm, D. Stilck França.
Dimensionality reduction of SDPs through sketching
Linear Algebra and its Applications, 563:461–475, (2019).

34. D. Stilck França, A. K. Hashagen.
Approximate randomized benchmarking for finite groups
Journal of Physics A: Mathematical and Theoretical, 51(39):395302, (2018).

35. D. Stilck França.
Perfect sampling for quantum Gibbs states
Quantum Information and Computation, 18(5–6), (2018).

36. A. Müller-Hermes, D. Stilck França.
Sandwiched Rényi convergence for quantum evolutions
Quantum, 2:55, (2018).

37. A. Müller-Hermes, D. Stilck França, M. M. Wolf.
Entropy production of doubly stochastic quantum channels
Journal of Mathematical Physics, 57(2):022203, (2016).

38. A. Müller-Hermes, D. Stilck França, M. M. Wolf.
Relative entropy convergence for depolarizing channels
Journal of Mathematical Physics, 57(2):022202, (2016).

Preprints

1. Z.-X. Shang, D. Stilck França.
Hamiltonian dynamics from pure dissipation
arXiv preprint arXiv:2604.18533, (2026).

2. R. T. Birke, J. B. Severin, M. A. Marciniak, E. Hogedal, A. Nylander, I. Ahmad, et al.
Demonstrating and benchmarking classical shadows for Lindblad tomography
arXiv preprint arXiv:2602.14694, (2026).

3. S. Slezak, M. Scandi, Á. M. Alhambra, D. S. França, C. Rouzé.
Polynomial-time thermalization and Gibbs sampling from system-bath couplings
arXiv preprint arXiv:2601.16154, (2026).

4. T. Kraft, M. K. Joshi, W. Lam, T. Olsacher, F. Kranzl, J. Franke, L. K. Joshi, R. Blatt, et al.
Bounded-error quantum simulation via Hamiltonian and Lindbladian learning
arXiv preprint arXiv:2511.23392, (2025).

5. D. Stilck França, N. H. A. Mai.
Quantum speed-ups for solving semidefinite relaxations of polynomial optimization
arXiv preprint arXiv:2511.14389, (2025).

6. H. Yuan, D. Stilck França, I. Luchnikov, E. Tiunov, T. Haug, L. Aolita.
Exponential speed-ups for structured Goemans–Williamson relaxations via quantum Gibbs states and Pauli sparsity
arXiv preprint arXiv:2510.08292, (2025).

7. D. Stilck França, T. Möbus, C. Rouzé, A. H. Werner.
Learning and certification of local time-dependent quantum dynamics and noise
arXiv preprint arXiv:2510.08500, (2025).

8. G. Camilo, T. O. Maciel, A. Tosta, A. Alhajri, T. L. Silva, D. Stilck França, L. Aolita.
Compilation-informed probabilistic logical-error cancellation
arXiv preprint arXiv:2508.20174, (2025).

9. E. Onorati, C. Rouzé, D. Stilck França, J. D. Watson.
Provably efficient learning of phases of matter via dissipative evolutions
arXiv preprint arXiv:2311.07506, (2023).

10. C. Rouzé, D. Stilck França.
Efficient learning of the structure and parameters of local Pauli noise channels
arXiv preprint arXiv:2307.02959, (2023).

11. A. Capel, C. Rouzé, D. Stilck França.
The modified logarithmic Sobolev inequality for quantum spin systems: classical and commuting nearest neighbour interactions
arXiv preprint arXiv:2009.11817, (2020).

Contributions to Workshops and Conferences

Summary: QIP and TQC are the most prestigious conferences in theoretical quantum computation and information, with acceptance rates around 20–25%. Since 2019, my work has been selected for 9 QIP and 13 TQC contributed talks, and I was an invited speaker at TQC 2023. Invited talks and tutorials over the last two years include major academic and industrial players in quantum spanning multiple continents, including Harvard, Cambridge, EPFL, IPAM/UCLA, Simons Institute Berkeley, IBM Quantum Zurich, Centre for Quantum Technologies Singapore, TU Munich, University of Maryland/QuICS, PsiQuantum, University of Tokyo, and the Scandinavian Conference on AI, where I will give an invited keynote in 2026. An asterisk indicates that the talk was delivered by one of my co-authors. I am frequently invited to talk at international workshops, seminars and conferences.

- 2026-08 *Learning and certification of local time-dependent quantum dynamics and noise*, TQC 2026 (August 31–September 4, 2026), **Delta Hotels by Marriott Sherbrooke Conference Center**, Contributed talk, Sherbrooke, Quebec, Canada.
  Daniel Stilck França, Tim Möbus, Albert Werner, Cambyse Rouzé
- 2026-06 *Information-theoretic generalization bounds for learning from quantum data*, Scandinavian Conference on AI 2026, **Odense**, Invited keynote talk, Odense, Denmark.
- 2026-04 *Learning and certification of local time-dependent quantum dynamics and noise*, Quantum Learning Workshop, **EPFL**, Invited talk, Lausanne, Switzerland.
- 2026-03 *Efficient thermalization and universal quantum computing with quantum Gibbs samplers*, Quantum Resources Conference, **Tokyo**, Invited talk, Tokyo, Japan.
- 2026-03 *Efficient thermalization and universal quantum computing with quantum Gibbs samplers*, Quantum Dunes Workshop, **Natal**, Invited talk, Natal, Brazil.
- 2026-01 *Learning and certification of local time-dependent quantum dynamics and noise*, Workshop on Open Quantum Systems, **IPAM**, Invited talk, Los Angeles, United States.
- 2025-12 *Efficient Hamiltonian, structure and trace distance learning of Gaussian states*, Quantum Learning Seminar, **Centre for Quantum Technologies**, Invited talk, Singapore, Singapore.
- 2025-12 *Quantum speed-ups for solving semidefinite relaxations of polynomial optimization*, IBM Quantum Seminar, **IBM Zurich**, Invited talk, Zurich, Switzerland.
- 2025-11 *Bounded-error quantum simulation via Hamiltonian and Lindbladian learning*, Nordic Quantum Meeting, **Nordita**, Invited talk, Stockholm, Sweden.
- 2025-09 *Learning and certification of local time-dependent quantum dynamics and noise*, Entangle This Workshop, **Madrid**, Invited talk, Madrid, Spain.
- 2025-09 *Efficient Hamiltonian, structure and trace distance learning of Gaussian states*, Invited Colloquium, Faculty of Physics, **Unicamp**, Invited talk, Campinas, Brazil.
- 2025-06 *Efficient thermalization and universal quantum computing with quantum Gibbs samplers*, STOC 2025, **Prague**, Contributed talk, Prague, Czech Republic.
- 2025-06 *Information-theoretic generalization bounds for learning from quantum data*, Quantum Machine Learning Conference, **Galileo Galilei Institute**, Invited talk, Florence, Italy.
- 2025-06 *Average contraction coefficients of quantum channels*, Quantum Workshop, **Aachen University**, Invited talk, Aachen, Germany.
- 2025-06 *Quantum speed-ups for solving semidefinite relaxations of polynomial optimization*, Munich Quantum Center Meeting, **Munich Quantum Center**, Invited talk, Munich, Germany.
- 2025-05 *Efficient thermalization and universal quantum computing with quantum Gibbs samplers*, Quantum Matter Conference, **University of Grenoble**, Invited talk, Grenoble, France.
- 2025-05 *Efficient thermalization and universal quantum computing with quantum Gibbs samplers*, Computer Science Seminar, **Harvard University**, Invited talk, Cambridge, United States.

- 2025-04 *Efficient thermalization and universal quantum computing with quantum Gibbs samplers*, Quantum Optimal Transport Workshop, **IPAM**, Invited talk, Los Angeles, United States.
- 2024-11 *Learning dissipative phases of matter*, Quantum Series Seminar, **Swiss Federal Technology Institute of Lausanne**, Invited talk, Lausanne, Switzerland.
- *2024-09 *Information-theoretic generalization bounds for learning from quantum data*, TQC 2024, **Okinawa University**, Contributed talk, Okinawa, Japan.
  Matthias C. Caro, Tom Gur, Cambyse Rouzé, Daniel Stilck França, Sathyawageeswar Subramanian
- 2024-09 *Making both ends meet: from efficient simulation to universal quantum computing with quantum Gibbs sampling*, TQC 2024, **Okinawa University**, Contributed talk, Okinawa, Japan.
  Daniel Stilck França, Cambyse Rouzé, Álvaro Alhambra
- *2024-09 *Noise-induced shallow circuits and absence of barren plateaus*, TQC 2024, **Okinawa University**, Contributed talk, Okinawa, Japan.
  Antonio Anna Mele, Armando Angrisani, Soumik Ghosh, Sumeet Khatri, Jens Eisert, Daniel Stilck França, Yihui Quek
- *2024-08 *Order-p quantum Wasserstein distances from couplings*, Beyond IID 2024, **University of Illinois**, Contributed talk, Urbana, United States.
  E. Beatty, D.S. França
- 2024-04 *Tutorial on Quantum Gibbs Sampling*, Simons Institute, **UC Berkeley**, Invited tutorial, Berkeley, United States.
  D.S. França
- *2024-01 *Quantum metrology in the finite-sample regime*, QIP 2024, **Taipei International Convention Center**, Contributed talk, Taipei, Taiwan.
- *2024-01 *Efficient learning of ground and thermal states within phases of matter*, QIP 2024, **Taipei International Convention Center**, Contributed talk, Taipei, Taiwan.
- *2024-01 *Going Beyond Gadgets: The Importance of Scalability for Analogue Quantum Simulators*, QIP 2024, **Taipei International Convention Center**, Contributed talk, Taipei, Taiwan.
- 2023-12 *Learning quantum many-body states*, International Workshop on Frontiers in Quantum Information, **Haikou**, Invited talk, Haikou, China.
- 2023-10 *Efficient learning of ground and thermal states within phases of matter*, Quantum Information Seminar, **University of the Basque Country**, Invited talk, Bilbao, Spain.
- 2023-10 *Efficient learning of ground and thermal states within phases of matter*, QuantAlps Days, **University of Grenoble**, Invited talk, Grenoble, France.
- 2023-08 *Efficient learning of ground and thermal states within phases of matter*, Chinese Physical Society Fall Meeting, **Ningxia University**, Invited talk, Ningxia, China.
- 2023-08 *Limitations imposed by noise on near-term quantum algorithms for optimization*, Paraty Quantum, **Universidade Federal do Rio de Janeiro**, Contributed talk, Paraty, Brazil.
- 2023-07 *Efficient learning of ground and thermal states within phases of matter*, Quantum computing seminar, **University of Edinburgh**, Invited talk, Edinburgh, Scotland.
- 2023-07 *Limitations of noisy quantum circuits*, TQC 2023, **Aveiro University**, Invited talk, Aveiro, Portugal.
- 2023-07 *Efficient learning of ground and thermal states within phases of matter*, TQC 2023, **Aveiro University**, Contributed talk, Aveiro, Portugal.
- 2023-07 *Quantum algorithm for ground state energy estimation using circuit depth with exponentially improved dependence on precision*, PsiQuantum Algorithms Seminar, **PsiQuantum**, Invited talk, Palo Alto, United States.
- 2023-06 *Quantum concentration inequalities*, ILAS 2023, **ILAS**, Invited speaker, Madrid, Spain.

- 2023-05 *Quantum concentration inequalities*, Quantum Trajectories Workshop, **Université Paul Sabatier**, Invited speaker, Toulouse, France.
- 2023-04 *Quantum algorithm for ground state energy estimation using circuit depth with exponentially improved dependence on precision*, QCTIP, **Riverlane**, Contributed talk, Cambridge, United Kingdom.
- 2023-03 *Limitations imposed by noise on near-term quantum algorithms for optimization*, QRC Seminar series, **Technology Innovation Institute**, Invited talk, Abu Dhabi, United Arab Emirates.
- *2023-02 *Exponentially tighter bounds on error mitigation*, QIP 2023, **Ghent University**, Contributed talk, Ghent, Belgium.
- 2023-02 *Limitations of VQAs: a quantum optimal transport approach*, QIP 2023, **Ghent University**, Contributed talk, Ghent, Belgium.
- 2023-02 *Limitations of noisy quantum devices*, Lyon Informatics Federation, **ENS Lyon**, Outreach talk, Lyon, France.
- 2022-12 *Exponentially tighter bounds on limitations of quantum error mitigation*, Quantum computing seminar, **University of Edinburgh**, Invited talk, Edinburgh, Scotland.
- 2022-11 *Concentration properties of shallow quantum circuits and applications to variational quantum algorithms*, Journées Informatique Quantique 2022, **Sorbonne University**, Invited talk, Paris, France.
- 2022-09 *Mixing properties of tensor network states*, AGATES kickoff workshop, **Banach Center**, Invited talk, Warsaw, Poland.
- 2022-08 *Limitations of noisy quantum algorithms*, Gemini Quantum Center Seminar, **University of Oslo**, Invited talk, Oslo, Norway.
- *2022-07 *Quantum Differential Privacy: An Information Theory Perspective*, TQC 2022, **University of Illinois Urbana-Champaign**, Contributed talk, Urbana-Champaign, United States.
- 2022-07 *Efficient and robust estimation of many-qubit Hamiltonians*, TQC 2022, **University of Illinois Urbana-Champaign**, Contributed talk, Urbana-Champaign, United States.
- 2022-06 *Limitations of noisy quantum annealers*, Adiabatic Quantum Computing Conference 2022, **ICTP**, Invited talk, Trieste, Italy.
- 2022-06 *Tomography of many-body quantum states from a few copies through optimal transport*, Quantum Information Theory and Mathematical Physics 2022, **Budapest University of Technology and Economics**, Invited talk, Budapest, Hungary.
- 2022-06 *Efficient and robust estimation of many-qubit Hamiltonians*, Control Club, **Forschungszentrum Jülich**, Invited talk, Jülich, Germany.
- 2022-05 *Limitations of variational quantum algorithms: a quantum optimal transport approach*, Workshop Quantum Information and the Frontiers of Quantum Theory, **ENS Lyon**, Invited talk, Lyon, France.
- *2022-03 *A refinement of Pinsker's inequality and applications to state tomography*, QIP 2022, **Caltech**, Contributed talk, Pasadena, United States.
- 2021-12 *Steps towards a universal quantum computer*, Digital Tech Summit 2021, **Oksenhallen Copenhagen**, Panel discussion, Copenhagen, Denmark.
- 2021-10 *Limitations of optimization on noisy quantum devices*, INFORMS Annual Meeting 2021, **INFORMS**, Invited talk, Anaheim, United States.
- 2021-09 *Limitations of optimization on noisy quantum devices*, Beyond IID in Information Theory 9, **National Taiwan University**, Invited talk, Taipei, Taiwan.
- 2021-09 *A game of quantum advantage: linking verification and simulation*, Second Kyoto Workshop on Quantum Information, Computation, and Foundation, **Yukawa Institute for Theoretical Physics**, Invited talk, Kyoto, Japan.

- *2021-08 *The modified logarithmic Sobolev inequality for quantum spin systems*, International Congress of Mathematical Physics 2021, **University of Geneva**, Contributed talk, Geneva, Switzerland.
- 2021-08 *Fast and robust quantum state tomography from few basis measurements*, International Congress of Mathematical Physics 2021, **University of Geneva**, Contributed talk, Geneva, Switzerland.
- 2021-07 *Efficient learning of quantum extensive observables*, TQC 2021, **University of Latvia**, Contributed talk, Riga, Latvia.
- 2021-07 *Fast and robust quantum state tomography from few basis measurements*, TQC 2021, **University of Latvia**, Contributed talk, Riga, Latvia.
- 2021-07 *A game of quantum advantage: linking verification and simulation*, TQC 2021, **University of Latvia**, Contributed talk, Riga, Latvia.
- *2021-07 *Optimization at the boundary of the tensor network variety*, TQC 2021, **University of Latvia**, Contributed talk, Riga, Latvia.
- 2021-06 *Eventually entanglement breaking Markovian dynamics: Structure and characteristic times*, Munich-Toulouse Workshop, **University of Toulouse**, Invited talk, Toulouse, France.
- 2021-05 *Learning quantum many-body systems from a few copies*, Seminar talk, **ENS Lyon**, Invited talk, Lyon, France.
- 2021-05 *A game of quantum advantage: linking verification and simulation*, Seminar talk, **Heinrich Heine University Duesseldorf**, Invited talk, Duesseldorf, Germany.
- 2021-05 *Quantum and big data*, Business Seminar, **Federal University of Rio Grande do Sul**, Panel discussion, Porto Alegre, Brazil.
- 2021-03 *Limitations of optimization algorithms on noisy quantum devices*, Seminar talk, **Sorbonne University**, Invited talk, Paris, France.
- 2021-02 *Limitations of optimization algorithms on noisy quantum devices*, QuICS Seminar, **QUICS/University of Maryland**, Invited talk, College Park, United States.
- 2021-02 *Limitations of optimization algorithms on noisy quantum devices*, QIP 2021, **Munich Quantum Center**, Contributed talk, Munich, Germany.
- *2021-02 *On the entropic convergence of quantum Gibbs samplers*, QIP 2021, **Munich Quantum Center**, Contributed talk, Munich, Germany.
- *2020-11 *The modified logarithmic Sobolev inequality for quantum spin systems: classical and commuting nearest neighbour interactions*, Beyond IID Conference, **Stanford University**, Contributed talk, Online event.
- 2020-10 *Fast and robust quantum state tomography from few basis measurements*, Quantum Information Theory Seminar, **University College London**, Invited talk, London, United Kingdom.
- 2020-06 *Faster quantum and classical SDP approximations for quadratic binary optimization*, Conference on the Theory of Quantum Computation, Communication and Cryptography (TQC), **University of Latvia**, Contributed talk, Riga, Latvia.
- 2020-04 *Faster quantum and classical SDP approximations for quadratic binary optimization*, Quantum Information Seminar, **Technical University of Munich**, Invited talk, Munich, Germany.
- Since 2020-03 *Monthly discussion on quantum computing on YouTube channel Canal Resistentes*, YouTube Interview, **Canal Resistentes**, Interviews, São Paulo, Brazil.
- 2019-10 *Faster quantum and classical SDP approximations for quadratic binary optimization*, Quantum innovators workshop, **University of Waterloo**, Invited talk, Waterloo, Canada.
- *2019-07 *Group transference techniques for the estimation of the decoherence times and capacities of quantum Markov semigroups*, Beyond IID Conference, **University of Technology Sydney**, Contributed talk, Sydney, Australia.

- *2019-07 *On entanglement breaking times for quantum Markovian evolutions*, Beyond IID Conference, **University of Technology Sydney**, Contributed talk, Sydney, Australia.
- 2019-05 *Weak simulation and benchmarking of sparse quantum circuits*, IQIM Seminar, **California Institute of Technology**, Invited talk, Pasadena, United States.
- 2019-05 *Noise-robust exploration of quantum matter on near-term quantum devices*, Seminar talk, **Niels Bohr Institute**, Invited talk, Copenhagen, Denmark.
- 2019-01 *Functional inequalities via group transference techniques and application to estimation of decoherence times and capacities*, Conference on Quantum Information Processing (QIP), **University of Colorado**, Contributed talk, Boulder, United States.
- 2018-12 *Faster quantum and classical SDP approximations for quadratic binary optimization*, Quantum Information Seminar, **Massachusetts Institute of Technology**, Invited talk, Cambridge, United States.
- 2018-05 *Hypercontractivity of quantum dynamical semigroups*, Workshop on quantum functional inequalities, **University of Toulouse**, Invited talk, Toulouse, France.
- 2018-05 *Approximate Randomized Benchmarking for Finite Groups*, Quantum Information Theory Seminar, **University of Cambridge**, Invited talk, Cambridge, United Kingdom.
- 2017-10 *Dimensionality reduction of SDPs through sketching*, Workshop on Probabilistic Techniques and Quantum Information Theory, **Institut Henri Poincaré**, Invited talk, Paris, France.
- 2017-10 *Perfect Sampling of quantum Gibbs states*, International Conference for Quantum Information Scientists, **Max Planck Institute of Light**, Contributed talk, Erlangen, Germany.
- 2016-05 *Hypercontractivity and convergence in Rényi divergences for quantum semigroups*, First Meeting of the MISTEQ Project, **University of Toulouse**, Invited talk, Toulouse, France.
- 2015-06 *Logarithmic Sobolev Inequalities for Entropy Production*, 12th Central European Quantum Information Processing Workshop, **Masaryk University**, Contributed talk, Telč, Czech Republic.