Francesco Buscemi

BORN IN PIACENZA, ITALY, 3 JUNE 1978

PROFESSOR
DEPARTMENT OF MATHEMATICAL INFORMATICS,
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Employment History

JULY 2019 – PRESENT
Full Professor at the Department of Mathematical Informatics, Nagoya University, Japan.

APRIL 2014 – JUNE 2019
Associate Professor at the Department of Mathematical Informatics, Nagoya University, Japan.

NOVEMBER 2009 – MARCH 2014
Tenure-Track Associate Professor at the Institute for Advanced Research, Nagoya University, Japan.

NOVEMBER 2008 - OCTOBER 2010
Post-doc Associate at Trinity Hall, Cambridge, UK.

NOVEMBER 2008 - OCTOBER 2009
Research Associate at the Statistical Laboratory, Department of Pure Mathematics and Mathematical Statistics of the University of Cambridge, UK.

MAY 2006 - OCTOBER 2008
Researcher in the ERATO-SORST Quantum Computation and Information Project, directed by Prof. Hiroshi Imai, and funded by the Japan Science and Technology Agency. Affiliated also with the Department of Computer Science, University of Tokyo, Japan.

NOVEMBER 2005 - APRIL 2006
Post-doc at QUIT Group, directed by Prof. G. M. D'Ariano, University of Pavia, Italy.

Academic Qualifications

FEBRUARY 2023
Obtained the Italian National Scientific Qualification (ASN, Abilitazione Scientifica Nazionale) for Full Professor (Prima Fascia) in area 02/A2 (Theoretical Physics of Fundamental Interactions; valid until 2034/2/6) and area 02/B2 (Theoretical Physics of Condensed Matter; valid until 2034/1/30).

NOVEMBER 2002 - OCTOBER 2005
PhD student in Physics at the University of Pavia, under the supervision of Prof. G. M. D'Ariano. Thesis title: "Optimization and Realization of Quantum Devices" (defended on February 24, 2006).

MARCH 2003 - MAY 2005
Student at SAFI (*Scuola Avanzata di Formazione Integrata*, Advanced School for Integrated Education) at the University of Pavia. Awarded as best student in 2003 and 2004.

NOVEMBER 1997 - JULY 2002
Graduated full marks *cum laude* in Physics at the University of Pavia, with a degree thesis titled "Physical Realizations of Quantum Transformations", under the supervision of Prof. D'Ariano.

NOVEMBER 1997 - JULY 2001
Student at *Almo Collegio Borromeo*, in Pavia, entered by open competition and kept all necessary qualifications in the following years.

Prizes and Competitive Grants Awarded

Winner of the **2018 Birkhoff-von Neumann Prize**, awarded by the International Quantum Structures Association.

Principal Investigator for the project **JSPS Scientific Research (C)** no. 23K03230, "Observational entropy and statistical inference: a mathematical study". Project duration: April 2023-March 2026. Total budget: 4,680,000 JPY.

Co-Investigator for the large project **MEXT-JSPS Grant-in-Aid for Transformative Research Areas (A)** no. 21H05183, "Extreme Universe: quantum information-theoretic foundations for theoretical physics". Project duration: April 2022-March 2026. Budget assigned for the period April 2022-March 2025: 15,500,000 JPY.

Principal Investigator for the project **JSPS Scientific Research (C)** no. 20K03746, "Algebraic and decision-theoretic ways into quantum resource theories". Project duration: April 2020-March 2024. Total budget: 4,290,000 JPY.

Awarded in 2019 funds for a 42-participant workshop titled "Algebraic and Statistical ways into Quantum Resource Theories", no. 19w5120, **Banff International Research Station** for Mathematical Innovation and Discovery (BIRS), Canada.

Principal Investigator for the **joint project Nagoya-Freiburg** "Quantum Information Processing in Non-Markovian Quantum Complex Systems". Project duration: April 2018-March 2020. Total budget: 4,000,000 JPY + 28,000 EUR.

Principal Investigator for the project **JSPS Grant-in-Aid for Young Scientists (B)** no. 17K17796, "Study of time-like correlations in quantum theory". Project duration: April 2017-March 2019. Total budget: 2,860,000 JPY.

Research Output

Publications: see Appendix A.

Invited talks, seminars, and other oral contributions: see Appendix B.

Other Research Activities

Organizer of the international workshop **"Quantum Information Processing in Non-Markovian Quantum Complex Systems"** (QIPQC2019), held in Nagoya University, December 9-12, 2019. Number of participants: 28.
Website: https://sites.google.com/view/qipcq19/home

Organizer of the international workshop "**Algebraic and Statistical ways into Quantum Resource Theories**", held at the Banff International Research Station (BIRS) for Mathematical Innovation and Discovery, July 21-26, 2019. Number of participants: 46.
Website: https://www.birs.ca/events/2019/5-day-workshops/19w5120

Organizer of the **18th Asian Quantum Information Science Conference**, held in Nagoya University, September 8-12, 2018. Number of participants: more than 200.
Website: http://aqis-conf.org/2018/

Founder and Organizer of the **Nagoya Winter Workshop Series on Quantum Information, Measurement, and Foundations**, Nagoya University. The workshop series reached the sixth edition: February 2010, 2011, 2012, 2013, 2014, 2015.
Website: https://sites.google.com/site/nagoyawinterworkshopseries/home

Organizer of the **Cambridge Summer Workshop on Quantum Information**, University of Cambridge, July 6-8, 2009. Number of participants: 19.
Website: http://sites.google.com/site/cambridgesummerworkshop/

Editorial board member for (in alphabetical order):

- Foundations of Physics (Springer)
- Open Systems & Information Dynamics (World Scientific)
- Physical Review X Quantum (American Physical Society; from June 2020 to June 2024)
- Progress of Theoretical and Experimental Physics (Physical Society of Japan)
- Quantum Measurements and Quantum Metrology (De Gruyter)

Referee for several national funding agency (including the ERC Advanced Grants system) and journals (Nature Physics, Nature Communications, Physical Review X, Physical Review Letters, Communications in Mathematical Physics, New Journal of Physics, Journal of Physics A and B, Journal of Mathematical Physics, IEEE Transactions on Information Theory, Quantum Information and Computation, Physics Letters A, International Journal of Quantum Information, etc.)

Other Achievements

Obtained the *Diploma (X anno) in Pianoforte* and the *Compimento Medio (VIII anno) di Composizione Tradizionale* at the *Conservatorio* "Giuseppe Verdi" of Milan.

Updated: August 3, 2024

Francesco Buscemi - List of Publications

the list below does not include unpublished arXiv submissions: for a complete record, click here (link to arXiv)

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no.	authors	title	journal	pub.date	arXiv	pub. PDF	remarks
76	Dall'Arno, M; Tosini, A; Buscemi, F	The signaling dimension in generalized probabilistic theories	Quantum Information and Computation, vol. 24(5&6), 411-424	April 2024	2311.13103	PDF	
75	Parzygnat, AJ; Fullwood, J; Buscemi, F; Chiribella, G	Virtual quantum broadcasting	Physical Review Letters, vol. 132, 110203 (8pp)	March 12, 2024	2310.13049	PDF	Featured in various news outlets
74	Buscemi, F; Kobayashi, K; Minagawa, S	A complete and operational resource theory of measurement sharpness	Quantum 8, 1235 (23pp)	January 25, 2024	2303.07737	PDF	
73	Ducuara, AF; Skrzypczyk, P; Buscemi, F; Sidajaya, P; Scarani, V	Maxwell's Demon walks into Wall Street: Stochastic thermodynamics meets expected utility theory	Physical Review Letters, vol. 131, 197103 (6pp)	November 9, 2023	2306.00449	PDF	Paul's talk at QIP2024 (also) about this
72	Chakraborty, S; Nema, A; Buscemi, F	Generalized resource theory of purity: one-shot purity distillation with local noisy operations and one way classical communication	2023 IEEE International Symposium on Information Theory (ISIT)	August 22, 2023	2208.05628	PDF	
71	Dall'Arno, M; Buscemi, F; Koshiba, T	Computing the quantum guesswork: a quadratic assignment problem	Quantum Information and Computation, vol. 23(9&10), 721-732	July 2023	2112.01666	PDF	
70	Buscemi, F; Kobayashi, K; Minagawa, S; Perinotti, P; Tosini, A	Unifying different notions of quantum incompatibility into a strict hierarchy of resource theories of communication	Quantum 7, 1035 (25pp)	June 7, 2023	2211.09226	PDF	
69	Parzygnat, AJ; Buscemi, F	Axioms for retrodiction: achieving time-reversal symmetry with a prior	Quantum 7, 1013 (31pp)	May 23, 2023	2210.13531	PDF	Arthur's talk about this
68	Buscemi, F; Schindler, J; Šafránek, D	Observational entropy, coarse-grained states, and the Petz recovery map: information-theoretic properties and bounds	New Journal of Physics, vol. 25, 053002 (21pp)	May 5, 2023	2209.03803	PDF	

no.	authors	title	journal	pub.date	arXiv	pub. PDF	remarks
67	Minagawa, S; Arai, H; Buscemi, F	Von Neumann's information engine without the spectral theorem	Physical Review Research, vol. 4, 033091 (9pp)	August 1, 2022	2203.05258	PDF	
66	Danageozian, A; Wilde, MM; Buscemi, F	Thermodynamic Constraints on Quantum Information Gain and Error Correction: A Triple Trade-Off	PRX Quantum, vol. 3, 020318 (21pp)	April 26, 2022	2112.05100	PDF	
65	Dall'Arno, M; Buscemi, F; Koshiba, T	Guesswork of a quantum ensemble	IEEE Transactions on Information Theory, vol. 68(5), pp. 3139-3143	January 26, 2022	2012.09350	PDF	Featured in various news outlets
64	Aw, CC; Buscemi, F; Scarani, V	Fluctuation theorems with retrodiction rather than reverse processes	AVS Quantum Science, vol. 3, 045601 (9pp)	October 6, 2021	2106.08589	PDF	AVS Quantum Science Featured Paper
63	Buscemi, F; Scarani, V	Fluctuation relations from Bayesian retrodiction	Physical Review E, vol. 103, 052111 (8pp)	May 6, 2021	2009.02849	PDF	Featured in a CQT Highlight
62	Dall'Arno, M; Brandsen, S; Buscemi, F	Explicit construction of optimal witnesses for input-output correlations attainable by quantum channels	Open Systems and Information Dynamics, vol. 27, no. 4, 2050017 (23pp)	April 29, 2021	2009.00866	PDF	
61	Dall'Arno, M; Buscemi, F; Bisio, A; Tosini, A	Data-driven inference, reconstruction, and observational completeness of quantum devices	Physical Review A, vol. 102, 062407 (13pp)	December 11, 2020	1812.08470	PDF	
60	Rosset, D; Schmid, D; Buscemi, F	Type-independent characterization of spacelike separated resources	Physical Review Letters, vol. 125, 210402 (7pp)	November 17, 2020	1911.12462	PDF	PRL Highlights and Editors' Suggestion
59	Zhou, W; Buscemi, F	General state transitions with exact resource morphisms: a unified resource-theoretic approach	Journal of Physics A: Mathematical and Theoretical, vol. 53, 445303 (19pp)	October 9, 2020	2005.09188	PDF	
58	Buscemi, F; Fujiwara, D; Mitsui, N; Rotondo, M	Thermodynamic reverse bounds for general open quantum processes	Physical Review A, vol. 102, 032210 (6pp)	September 10, 2020	2003.08548	PDF	Python code for the plots available at this link
57	Zhen, Y-Z; Mao, Y; Chen, K; Buscemi, F; Dahlsten, O	Unified Approach to Witness Nonentanglement-Breaking Quantum Channels	Physical Review A, vol. 101, 062301 (8pp)	June 1, 2020	1912.10605	PDF	
56	Schmid, D; Rosset, D; Buscemi, F	The type-independent resource theory of local operations and shared randomness	Quantum 4, 262 (17pp)	April 30, 2020	1909.04065	PDF	Featured in a Perspective article on Quantum (link)
55	Buscemi, F; Chitambar, E;	A Complete Resource Theory of	Physical Review Letters, vol. 124,	March 24, 2020	1908.11274	PDF	

no.	authors	title	journal	pub.date	arXiv	pub. PDF	remarks
	Zhou, W	Quantum Incompatibility as Quantum Programmability	120401 (5pp)				
54	Dall'Arno, M; Buscemi, F; Scarani, V	Extension of the Alberti-Ulhmann criterion beyond qubit dichotomies	Quantum 4, 233 (10pp)	February 20, 2020	1910.04294	PDF	
53	Regula, B; Narasimhachar, V; Buscemi, F; Gu, M	Coherence manipulation with dephasing-covariant operations	Physical Review Research 2, 013109 (10pp)	January 31, 2020	1907.08606	PDF	
52	Buscemi, F; Sutter, D; Tomamichel, M	An information-theoretic treatment of quantum dichotomies	Quantum 3, 209 (18pp)	December 12, 2019	1907.08539	PDF	
51	Buscemi, F; Dall'Arno, M	Data-driven inference of physical devices: theory and implementation	New Journal of Physics, vol. 21, 113029 (12pp)	November 14, 2019	1805.01159	PDF	
50	Agresti, I; Poderini, D; Carvacho, G; Sarra, L; Chaves, R; Buscemi, F; Dall'Arno, M; Sciarrino F	Experimental semi-device-independent tests of quantum channels	Quantum Science and Technology 4, 035004 (9pp)	May 20, 2019	1806.00380		
49	Gour, G; Jennings, D; Buscemi, F; Duan, R; Marvian, I	Quantum majorization and a complete set of entropic conditions for quantum thermodynamics	Nature Communications 9, 5352 (9pp)	December 17, 2018	1708.04302	PDF	the precursor paper (unpublished) is available on the arXiv
48	Buscemi, F	Reverse Data-Processing Theorems and Computational Second Laws	Springer Proceedings in Mathematics & Statistics, vol 261, 135-159	November 3, 2018	1607.08335		Proceedings of Nagoya Winter Workshop NWW2015
47	Dall'Arno, M; Buscemi, F	Tradeoff relations between accessible information, informational power, and purity	IEEE Transactions on Information Theory, vol. 65(4), pp. 2614-2622	October 9, 2018	1801.05185	PDF	
46	Rosset, D; Buscemi, F; Liang Y-C	Resource Theory of Quantum Memories and Their Faithful Verification with Minimal Assumptions	Physical Review X, vol. 8, 021033 (15pp)	May 8, 2018	1710.04710	PDF	featured on APS PhysicsBuzz Blog, Phys.org, and "Inside the Perimeter" Blog
45	Buscemi, F	Comparison of noisy channels and reverse data-processing theorems	2017 IEEE Information Theory Workshop (ITW), Kaohsiung, 2017, 489-493	February 1, 2018	1803.02945	PDF	
44	Dall'Arno, M; Tosini, A; Brandsen, S;	No-hypersignaling principle	Physical Review Letters, vol. 119, 020401 (7pp)	July 14, 2017	1609.09237	PDF	PRL Highlights and Editors' Suggestion

no.	authors	title	journal	pub.date	arXiv	pub. PDF	remarks
	Buscemi, F; Vedral, V						
43	Dall'Arno, M; Brandsen, S; Buscemi, F; Vedral, V	Device-independent tests of quantum measurements	Physical Review Letters, vol. 118, 250501 (5pp)	June 22, 2017	1609.07846	PDF	
42	Dall'Arno, M; Brandsen, S; Buscemi, F	Device-independent tests of quantum channels	Proceedings of the Royal Society A, 473, 20160721 (16pp)	March 15, 2017	1606.02799	PDF	
41	Buscemi, F; Gour, G	Quantum relative Lorenz curves	Physical Review A 95, 012110 (12pp)	January 9, 2017	1607.05735	PDF	
40	Buscemi, F	Degradable channels, less noisy channels, and quantum statistical morphisms: an equivalence relation	Problems of Information Transmission 52(3), 201-213	October 19, 2016	1511.08893	PDF	Russian translation available here
39	Sulyok, G; Sponar, S; Demirel, B; Buscemi, F; Hall, MJW; Ozawa, M; Hasegawa, Y	Erratum: Experimental Test of Entropic Noise-Disturbance Uncertainty Relations for Spin-1/2 Measurements [Phys. Rev. Lett. 115, 030401 (2015)]	Physical Review Letters, vol. 117, 069903 (2pp)	August 5, 2016		PDF	Reason for erratum: one theoretical claim corrected; experimental conclusions unchanged
38	Buscemi, F; Das, S; Wilde, MM	Approximate reversibility in the context of entropy gain, information gain, and complete positivity	Physical Review A, vol. 93, 062304 (11pp)	June 13, 2016	1601.01207	PDF	
37	Buscemi, F; Datta, N	Equivalence between divisibility and monotonic decrease of information in classical and quantum stochastic processes	Physical Review A, vol. 93, 012101 (7pp)	January 4, 2016	1408.7062	PDF	
36	Sulyok, G; Sponar, S; Demirel, B; Buscemi, F; Hall, MJW; Ozawa, M; Hasegawa, Y	Experimental test of entropic noise-disturbance uncertainty relations for spin-1/2 measurements	Physical Review Letters, vol. 115, 030401 (5pp)	July 13, 2015	1504.04200	PDF	PRL Editors' Suggestion
35	Buscemi, F; Dall'Arno, M; Ozawa, M; Vedral, V	Universal Optimal Quantum Correlator	International Journal of Quantum Information, vol. 12 (7-8), 1560002 (4pp)	October 28, 2014	1409.2237	PDF	
34	Buscemi, F	On complete positivity, Markovianity, and the quantum data-processing inequality, in the	Physical Review Letters, vol. 113, 140502 (5pp)	October 3, 2014	1307.0363	PDF	

no.	authors	title	journal	pub.date	arXiv	pub. PDF	remarks
		presence of initial system-environment correlations					
33	Buscemi, F; Datta, N; Strelchuk, S	Game-theoretic characterization of antidegradable channels	Journal of Mathematical Physics, vol. 55 (9), 092202 (14pp)	September 23, 2014	1404.0277	PDF	
32	Dall'Arno, M; Buscemi, F; Ozawa, M	Tight bounds on accessible information and informational power	Journal of Physics A: Mathematical and Theoretical, vol. 47, 235302 (12pp)	May 20, 2014	1402.0602	PDF	Selected for J. Phys. A "Highlights of 2014"
31	Buscemi, F; Hall, MJW; Ozawa, M; Wilde, MM	Noise and disturbance in quantum measurements: an information-theoretic approach	Physical Review Letters, vol. 112, 050401 (5pp)	February 4, 2014	1310.6603	PDF	Top 1% Highly Cited Paper (according to Web of Science, as of Jan/Feb 2016)
30	Buscemi, F; Datta, N	General theory of assisted entanglement distillation	IEEE Transactions on Information Theory, vol. 59 (3), pp.1940-1954	February 12, 2013	1009.4464	PDF	
29	Wilde, MM; Hayden, P; Buscemi, F; Hsieh, M-H	The information-theoretic costs of simulating quantum measurements	Journal of Physics A: Mathematical and Theoretical, vol. 45, 453001 (67pp)	October 18, 2012	1206.4121	PDF	Topical Review
28	Buscemi, F	All Entangled Quantum States Are Nonlocal	Physical Review Letters, vol. 108, 200401 (5pp)	May 14, 2012	1106.6095	PDF	Selected for a Viewpoint in APS Physics (link) and a PRL Editors' Suggestion
27	Buscemi, F	Comparison of quantum statistical models: equivalent conditions for sufficiency	Communications in Mathematical Physics, vol. 310, pp.625-647	March 1, 2012	1004.3794	PDF	
26	Buscemi, F; Datta, N	Entanglement cost in practical scenarios	Physical Review Letters, vol. 106, 130503 (4pp)	March 30, 2011	0906.3698	PDF	
25	Buscemi, F; Datta, N	Distilling entanglement from arbitrary resources	Journal of Mathematical Physics, vol. 51 (10), 102201 (18pp)	October 11, 2010	1006.1896	PDF	
24	Buscemi, F; Datta, N	The quantum capacity of channels with arbitrarily correlated noise	IEEE Transactions on Information Theory, vol. 56 (3), pp.1447-1460	March 11, 2010	0902.0158	PDF	
23	Buscemi, F	Private quantum decoupling and secure disposal of information	New Journal of Physics, vol. 11, 123002 (17pp)	December 1, 2009	0901.4506	PDF	
22	Buscemi, F; Gour, G; Kim JS	Polygamy of Distributed Entanglement	Physical Review A, vol. 80, 012324 (8pp)	July 20, 2009	0903.4413	PDF	

no.	authors	title	journal	pub.date	arXiv	pub. PDF	remarks
21	Buscemi, F; Horodecki, M	Towards a unified approach to information-disturbance tradeoffs in quantum measurements	Open Systems and Information Dynamics, vol. 16 (1), pp.29-48	March 1, 2009	0810.1310	PDF	
20	Buscemi, F; Hayashi, M; Horodecki, M	Global information balance in quantum measurements	Physical Review Letters, vol. 100, 210504 (4pp)	May 30, 2008	quant-ph/0702166	PDF	
19	Buscemi, F	Irreversibility of entanglement loss	Lecture Notes in Computer Science, vol. 5106, pp.16-28	February 29, 2008	0802.4327	PDF	
18	Buscemi, F; Hayashi, M; Horodecki, M	Information extraction versus reversibility in quantum measurement processes	International Journal of Quantum Information, vol. 6 (Supplement), pp.613-619	February 27, 2008		PDF	
17	Buscemi, F	Entanglement measures and approximate quantum error correction	Physical Review A, vol. 77, 012309 (7pp)	January 9, 2008	0706.1815	PDF	
16	Buscemi, F	Channel correction via quantum erasure	Physical Review Letters, vol. 99, 180501 (4pp)	October 29, 2007	quant-ph/0611111	PDF	
15	Buscemi, F; Chiribella, G; D'Ariano, GM	Quantum erasure of decoherence	Open Systems and Information Dynamics, vol. 14 (1), pp.53-61	March 7, 2007	quant-ph/0611070	PDF	
14	Buscemi, F; Sacchi, MF	A minimum-disturbing quantum state discriminator	Open Systems and Information Dynamics, vol. 14 (1), pp.17-24	March 7, 2007	quant-ph/0610232	PDF	
13	Buscemi, F; D'Ariano, GM; Macchiavello, C	Economical realization of phase covariant devices in arbitrary dimensions	Journal of the Optical Society of America B, vol. 24 (2), pp.363-370	January 26, 2007	quant-ph/0606120	PDF	Invited contribution
12	Chiribella, G; D'Ariano, GM; Macchiavello, C; Perinotti, P; Buscemi, F	Superbroadcasting and classical information	Physical Review A, vol. 75, 012315 (8pp)	January 12, 2007	quant-ph/0608153	PDF	
11	Buscemi, F; Sacchi, MF	Information-Disturbance Tradeoff in Quantum State Discrimination	Physical Review A, vol. 74, 052320 (5pp)	November 14, 2006	quant-ph/0610196	PDF	
10	Buscemi, F; D'Ariano, GM; Macchiavello, C; Perinotti, P	Universal and phase covariant superbroadcasting for mixed qubit states	Physical Review A, vol. 74, 042309 (14pp)	October 12, 2006	quant-ph/0602125	PDF	
9	Buscemi, F	On the minimum number of unitaries needed to describe a random-unitary channel	Physics Letters A, vol. 360 (2), pp.256-258	August 22, 2006	quant-ph/0607034	PDF	

no.	authors	title	journal	pub.date	arXiv	pub. PDF	remarks
8	Buscemi, F; D'Ariano, GM; Macchiavello, C	Optimal Time-Reversal of Multi-phase Equatorial States	Physical Review A, vol. 72, 062311 (5pp)	December 8, 2005	quant-ph/0504016	PDF	
7	Buscemi, F; Chiribella, G; D'Ariano, GM	Inverting quantum decoherence by classical feedback from the environment	Physical Review Letters, vol. 95, 090501 (4pp)	August 23, 2005	quant-ph/0504195	PDF	
6	Buscemi, F; D'Ariano, GM; Keyl, M; Perinotti, P; Werner RF	Clean Positive Operator Valued Measures	Journal of Mathematical Physics, vol. 46 (8), 082109 (18pp)	August 17, 2005	quant-ph/0505095	PDF	
5	Buscemi, F; D'Ariano, GM; Macchiavello, C	Economical Phase-Covariant Cloning of Qudits	Physical Review A, vol. 71, 042327 (7pp)	April 19, 2005	quant-ph/0407103	PDF	
4	Buscemi, F; D'Ariano, GM; Perinotti, P	There exist non orthogonal quantum measurements that are perfectly repeatable	Physical Review Letters, vol. 92, 070403 (4pp)	February 19, 2004	quant-ph/0310041	PDF	
3	Buscemi, F; D'Ariano, GM; Sacchi, MF	Physical realizations of quantum operations	Physical Review A, vol. 68, 042113 (7pp)	October 23, 2003	quant-ph/0305180	PDF	
2	Buscemi, F; D'Ariano, GM; Perinotti, P; Sacchi, MF	Optimal realization of the transposition map	Physics Letters A, vol. 314 (5-6), pp.374-379	June 16, 2003	quant-ph/0304175	PDF	
1	Buscemi, F; D'Ariano, GM; Sacchi, MF	Unitary realizations of the ideal phase measurement	Physics Letters A, vol. 312 (5-6), pp.315-318	April 24, 2003	quant-ph/0304071	PDF	

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Francesco Buscemi - List of Talks

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no.	title	type	conference/series name	place	date	slides	website	video
136	TBA	invited talk	Observing a Century of Quantum Mechanics	IISER, Kolkata, India	December 18-21, 2024		link	
135	TBA	invited talk	Siam Quantum Science and Technology (SQST)	Ao Nang, Krabi, Thailand	December 1-4, 2024		link	
134	TBA	invited talk	From Quantum Materials to Quantum Information: Symposium on Trans-Scale Quantum Science and Quantum Materials Synthesis	Okinawa Institute of Science and Technology, Japan	November 11-15, 2024		link	
133	TBA	invited talk	Shenzhen-Nagoya Workshop on Quantum Science	Nagoya University and online	September 18-21, 2024		link	
132	Semiquantum Tests: Closing the "Nonlocality Gap" in Space and the "Clumsiness Loophole" in Time	invited talk	Symposium for Celebrating 60 years of Bell's theorem	Shibaura Institute of Technology and online	September 3, 2024		link	
131	How a resource-theoretic approach can shed light on quantum measurement theory	invited talk	AQIS 2024 Satellite Workshop on Fundamental Aspects of Quantum Information	Sapporo City Gender Equality Center, Hokkaido, Japan	August 31 - September 1, 2024		link	
130	TBA	invited talk	International Conference on Quantum Communication, Measurement and Computing (QCMC2024)	IIT Madras, Chennai, Tamilnadu, India	August 26-30, 2024		link	
129	Squashed information backflows in non-Markovian quantum stochastic processes	invited talk	Bridging Quantum Information and Mathematical Physics	Cambridge, UK	August 14-16, 2024		link	
128	The theory of statistical comparison: from majorization, to the quantum Blackwell theorem, and beyond	invited course	IEEE East Asian School of Information Theory 2024	Shonan, Japan	July 30 - August 2, 2024		link	
127	Axioms for retrodiction: achieving time-reversal symmetry with a prior	contributed talk	IQSA 2024	Vrije Universiteit Brussel, Brussles, Belgium	July 23, 2024	handout	link	
126	Incompatible incompatibilities, and how to make them compatible again	contributed talk	IQSA 2024	Vrije Universiteit Brussel, Brussles, Belgium	July 23, 2024	handout	link	
125	Information revivals without backflows: non-causal explanations of non-Markovianity	invited talk	55th Symposium on Mathematical Physics	Toruń, Poland	June 21-22, 2024	handout	link	
124	Incompatible incompatibilities, and how to make them compatible again	invited talk	Quantum TUT Workshop 2024	Toyohashi University of Technology	February 22, 2024		link	

no.	title	type	conference/series name	place	date	slides	website	video
123	Incompatible incompatibilities, and how to make them compatible again	invited talk	BoseStat@100: International Conference on Photonics, Quantum Information, and Quantum Communication	S. N. Bose National Centre for Basic Sciences, Kolkata, India	January 29 - February 2, 2024	handout	link	
122	Notes on the margin to the Second Law of Thermodynamics	invited seminar	Cryptography and Quantum Information Seminar Series	Università della Svizzera Italiana, Lugano	21 December 2023			
121	Notes on the margin to the Second Law of Thermodynamics	invited seminar	Quantum Information & Communication Seminar Series	University of Geneva	18 December 2023	handout		
120	Incompatible incompatibilities, and how to make them compatible again	invited talk	Japanese-French Quantum Information 2023 workshop	The University of Tokyo	13 December 2023	handout	link	
119	From Counterculture Vision to Cutting-Edge Technology: The Journey of Quantum Computers	invited talk	7TH RIKEN - S&TDC Seminar on Quantum Computing	Embassy of Italy in Japan, Tokyo	29 November 2023	handout	link	
118	Measurement sharpness and incompatibility: problems and solutions	invited seminar	GIQ Seminar Series	UAB, Spain	28 September 2023	handout		youtube
117	Measurement sharpness and incompatibility as quantum resources	invited talk	Shenzhen-Nagoya Workshop on Quantum Science	Nagoya University	September 7, 2023		link	
116	Petz recovery, Jeffrey retrodiction, and von Neumann's "other" entropy	invited talk	Quantum Information Theory and Mathematical Physics 2023	Mathematical Institute of the Budapest University of Technology and Economics, Hungary	August 28-30, 2023	handout	link	
115	The theory of statistical comparison: from majorization to the quantum Blackwell theorem and beyond	invited talk	Seminari di probabilità quantistica	Politecnico di Milano, Italy	June 15, 2023	handout		
114	Measurement sharpness and incompatibility as quantum resources	invited talk	25th Conference of the International Linear Algebra Society (ILAS 2023): minisymposium "Tensors and quantum information"	Madrid, Spain	June 13, 2023	handout	link	
113	Resource-theoretic approach to two problems in the theory of quantum measurements	invited talk	54th Symposium on Mathematical Physics	Toruń, Poland	June 10, 2023	handout	link	
112	Various types of divisibility and the role they play in statistical mechanics	invited talk	Mathematical Physics in Quantum Technology: from Finite to Infinite Dimensions	Research Workshop at International Centre of Mathematical Sciences, Edinburgh, UK	May 22-26, 2023	handout	link	youtube
111	How "quantum" is this? Statistical tests of quantumness, from foundations to technologies	invited talk	BiQuTe Seminar Series	Università di Milano-Bicocca, Italy	March 16, 2023		link	

no.	title	type	conference/series name	place	date	slides	website	video
110	Observational entropy, coarse-grained states, and irretrodictability	invited talk	KAIST-Nagoya GENKO Workshop on Entanglement and Quantum Markovian Process	KAIST, Daejeon, Korea	February 21-23, 2023	handout	link	
109	Unifying different notions of quantum incompatibility into a strict hierarchy of resource theories of communication	invited talk	Aspects of quantum information and quantum foundations	Takeda Hall, University of Tokyo	February 9, 2023		link	
108	A hierarchy of resource theories of quantum incompatibility	invited talk	Quantum resources: from mathematical foundations to operational characterisation	Hotel Paradox, Singapore	December 5, 2022	handout	link	
107	About the incompatibility of quantum measurement processes	invited talk	Quantum IT: from fundamentals to applications	KAIST, Korea (online)	November 9, 2022		link	
106	Observational entropy, coarse-grained states, and irretrodictability	invited seminar	Quantum Information Seminar Series	QuIT Group, Pavia University, Italy	November 2, 2022			
105	Observational entropy, coarse-grained states, and irretrodictability	invited talk	Third Kyoto Workshop on Quantum Information, Computation, and Foundation	YITP, Kyoto University (online)	October 18, 2022	handout	link	youtube
104	Von Neumann's other entropy: observational entropy, coarse-grained states, and Petz recovery maps	invited talk	Quantum extreme universe from quantum information	YITP, Kyoto, Japan	September 29, 2022	handout	link	youtube
103	The theory of statistical comparison: where do we stand	invited talk	15th Biennial Quantum Structure Conference	Tropea, Italy	June 27, 2022	handout		
102	The theory of statistical comparison: an overview	invited talk	24th Conference of the International Linear Algebra Society	Galway, Ireland	June 20-24, 2022		link	
101	Fluctuation relations and the second law of thermodynamics from Bayesian retrodiction	invited talk	Quantum Information and Probability: from Foundations to Engineering (QIP22)	Linnaeus University, Växjö, Sweden	June 15, 2022	handout	link	
100	The theory of statistical comparison: a brief overview	invited talk	SUSTech-Nagoya Workshop on Quantum Science	online	June 2, 2022	handout	link	youtube
99	The theory of statistical comparison: from majorization to quantum thermodynamics	invited colloquium		Dept. of Mathematics, Osaka University, Japan	May 23, 2022	handout	link	
98	A walk through the zoo of quantum information entropies	tutorial talk	Quantum Information Entropy in Physics	YITP, Kyoto University, Japan	March 21, 2022	handout	link	video
97	Bayesian Retrodiction and the Second Law of Thermodynamics	invited talk	Second Kyoto Workshop on Quantum Information, Computation, and Foundation	YITP, Kyoto University (online)	September 13, 2021	handout	link	youtube
96	The Petz map in maths, information theory, and physics: an overview	invited talk	Workshop on Quantum Information and Quantum Black Holes	online	September 10, 2021	handout	link	youtube

no.	title	type	conference/series name	place	date	slides	website	video
95	Bayesian Retrodiction and the Second Law of Thermodynamics	invited seminar	LSU QST Seminar Series	Louisiana State University (online)	July 28, 2021	handout		youtube
94	Entanglement and nonlocality	invited seminar	Kimura Lab Seminar Series	Shibaura Inst. Tech. (online)	July 13, 2021			
93	Prediction, retrodiction, and the Second Law of Thermodynamics	invited seminar	Summer School on Quantum Information and Quantum Technology 2021	IISER Kolkata, India (online)	June 29, 2021	handout	link	youtube
92	The "thermodynamic reverse bound" and the role of retrodiction in the Second Law	invited talk	SUSTech-Nagoya workshop on Quantum Science	online	June 24, 2021	handout	link	youtube
91	Retrodiction in stochastic thermodynamics	invited talk	52nd Symposium on Mathematical Physics	Toruń, Poland (online)	June 17, 2021	handout	link	youtube
90	The "thermodynamic reverse bound" and the role of retrodiction in the Second Law	invited talk	NCTS Annual Theory Meeting 2021: Quantum Physics, Quantum Information, and Quantum Technologies	Hsinchu, Taiwan (online)	February 17, 2021	handout	link	youtube
89	Fluctuation theorems from Bayesian retrodiction	invited colloquium	13th Annual Symposium of the Centre for Quantum Technologies (CQT), Singapore	Singapore (online)	January 7, 2021	handout	link	youtube
88	Using data-driven inference to bootstrap quantum tomography	contributed talk	2nd workshop on Quantum and Classical Cryogenic Devices, Circuits, and Systems (QCCC 2020)	Nagoya, Japan (online)	December 14, 2020	handout	link	
87	Statistical tests of "quantumness": from mathematics to technology	invited talk	20th Asian Quantum Information Science Conference (AQIS 2020)	Sydney, Australia (online)	December 7, 2020		link	youtube
86	Quantum entanglement: from basic question to technological resource	invited colloquium	KIAS School of Computational Sciences, Online Colloquium Series	Korea Institute for Advanced Study (online)	November 24, 2020	handout	link	youtube
85	Optimal hiding/masking of quantum information	invited talk	Online Workshop on Quantum Information, Computation, and Foundations	YITP, Kyoto University (online)	September 17, 2020		link	video
84	Data-Driven Inference and Observationally Complete Devices	invited talk	12th Italian Quantum Information Science Conference	Milano	September 10, 2019		link	
83	Statistical Comparison and Its Applications in Quantum Information Theory	invited talk	4th Workshop on Mathematical Physics and Quantum Information Theory	Budapest, Hungary	September 3, 2019		link	
82	Data-Driven Inference and Observationally Complete Devices	invited talk	51st Symposium in Mathematical Physics	Institute of Physics, Nicolaus Copernicus University, Toruń, Poland	June 16, 2019		link	
81	Data-Driven Inference and Observationally Complete Devices	invited talk	Quantum Information Revolution: Impact to Foundations	Linnaeus University, Växjö, Sweden	June 12, 2019	PDF	link	

no.	title	type	conference/series name	place	date	slides	website	video
80	Quantum Statistical Comparison, Quantum Majorization, and Their Applications to Generalized Resource Theories	invited talk	Mathematical Aspects in Current Quantum Information Theory (MAQIT) 2019	Seoul National University, Seoul, Korea	May 21, 2019		link	
79	"Semiquantum games" to verify quantum correlations (in space and time)	invited talk	Nagoya-SUSTech Quantum Information Workshop	Nagoya University, Japan	April 12, 2019		link	
78	Quantum Statistical Comparison, Quantum Majorization, and Their Applications to Generalized Resource Theories	invited seminar	Quantum Foundations Seminar Series	Perimeter Institute, Waterloo, Canada	February 26, 2019	PDF	link	PIRSA
77	The Role of Statistical Comparison Theory in the Study of Open Quantum Systems	invited talk	WE-Heraeus-Seminar on "Advances in open systems and fundamental tests of quantum mechanics"	Physikzentrum Bad Honnef, Germany	December 4, 2018	PDF	link	
76	Statistical Comparison Theory in Quantum Information and Foundations	invited talk	Quantum Information Technology Symposium (QIT39)	Research Center for Advanced Science and Technology, The University of Tokyo	November 27, 2018	PDF	link	
75	Optimal Hiding of Quantum Information	contributed talk (plenary)	18th Asian Quantum Information Science Conference (AQIS18)	Nagoya University, Japan	September 12, 2018	PDF	link	
74	The Theory of Statistical Comparison in Quantum Information and Foundations	invited talk (keynote speaker)	Modern Topics in Quantum Information	International Institute of Physics, Natal, Brazil	July 30, 2018	PDF	link	youtube
73	From Statistical Decision Theory to Bell Nonlocality	invited lecture (videoconference)	Quantum Engineering Invited Lectures	QECDT, University of Bristol, UK	July 26, 2018	PDF		
72	Complete positivity and its robustness in the presence of initial correlations	invited talk	50th Symposium in Mathematical Physics	Institute of Physics, Nicolaus Copernicus University, Torun, Poland	June 24, 2018	PDF	link	
71	A resource theory of quantum nonlocality (in space and time)	invited talk	Workshop on Multipartite Entanglement and Resource Theories	Centro de Ciencias de Benasque, Spain	May 22, 2018	PDF	link	
70	Quantum Information Processing in Non-Markovian Quantum Complex Systems	invited talk	FRIAS-IAR Joint Project Kick-off Meeting	Freiburg University	May 14, 2018	PDF	link	
69	Exploring the Border between Physics and Statistics: Spontaneous Processes from the Decrease of Information	contributed talk	CQIS2018	National Institute of Informatics, Tokyo	April 11, 2018	PDF	link	
68	Device-independent falsification	invited discussion	Quantum Correlations Workshop	National University of Singapore	February 19, 2018		link	
67	Private Quantum Decoupling	invited talk	3rd International Conference on Quantum Foundations 2017	National Institute of Technology, Patna, India	December 7, 2017	PDF	link	
66	Channels inclusion, falsification, and	invited talk	QCQIP 2017	Chinese Academy of	November 14, 2017	PDF	link	

no.	title	type	conference/series name	place	date	slides	website	video
	verification			Sciences, Beijing, China				
65	Comparison of noisy channels and reverse data-processing theorems	invited talk	2017 IEEE Information Theory Workshop	Kaohsiung, Taiwan	November 10, 2017	PDF	link	
64	The Information-Disturbance Tradeoff in Quantum Theory	invited seminar (guest lecture)	Distinguished Visiting Researchers' Guest Lectures	National Cheng Kung University, Tainan, Taiwan	November 8, 2017	PDF		
63	Quantum Statistical Mechanics from the Viewpoint of Statistical Decision Theory	invited seminar	Quantum Information Science Seminar Series	Department of Physics, National Cheng Kung University, Tainan, Taiwan	November 6, 2017	PDF	link	
62	Approaching quantum thermodynamics from the viewpoint of statistical decision theory	invited talk	The many facets of non-equilibrium physics: from many body theory to quantum thermodynamics	Mazara del Vallo, Italy	September 21, 2017	PDF	link	
61	The theory of quantum statistical comparison with some applications to quantum information science	invited seminar	Seminari di Probabilità Quantistica	Dipartimento di Matematica, Politecnico di Milano, Italy	September 12, 2017	PDF	link	
60	Semiquantum games to verify quantum correlations (in space and in time)	invited talk	Foundations of Quantum Mechanics and Technology (FQMT)	Linnaeus University, Växjö, Sweden	June 14, 2017	PDF	link	
59	Quantum uncertainties	invited talk (departmental colloquium)	Colloquia at the Dept. of Applied Mathematics	Hanyang University, Seoul, Korea	March 22, 2017	PDF		
58	Quantum relative Lorenz curves	invited talk	The JSAP Workshop on Quantum Information and Related Fields	National Institute of Informatics, Tokyo	March 2, 2017		link	
57	A quantum Blackwell theorem for quantum channels	invited talk	Workshop on Quantum Incompatibility	Kyoto University, Yoshida campus, Engineering Science Depts Bldg. Room 212	January 18, 2017		link	
56	Thermodynamics, Statistical Comparison, and Quantum Lorenz Curves	invited talk	Taming Quantum Noise (TQN2016)	Mazara del Vallo, Italy	September 5, 2016		link	
55	Information gain and disturbance in quantum measurements revisited	contributed talk	16th Asian Quantum Information Science Conference (AQIS'16)	Academia Sinica, Taipei, Taiwan	August 30, 2016	PDF	link	
54	The Theory of Statistical Comparison with Applications in Quantum Information Science	invited talk (tutorial)	16th Asian Quantum Information Science Conference (AQIS'16)	Academia Sinica, Taipei, Taiwan	August 28, 2016	PDF	link	
53	Reverse Data-Processing Theorems, Bayesian Structures, and Information Flow	invited talk	Quantum Foundations Workshop	University of Pavia, Italy	June 21, 2016	PDF	link	
52	Thermodynamics as Statistical Comparison	invited talk	Quantum and Beyond	Linnaeus University, Växjö, Sweden	June 16, 2016		link	
51	Reverse Data-Processing Theorems	invited talk	Hong Kong Workshop on Quantum	Department of Computer Science, The	May 4, 2016	PDF	link	

no.	title	type	conference/series name	place	date	slides	website	video
			Information and Foundations	University of Hong Kong				
50	Some Quantum Blackwell Theorems and Applications	invited seminar	IQST Seminar Series	Calgary University, Canada	February 17, 2016	PDF	link	
49	"Conservation of Information" as a Principle	invited talk	International Conference on Quantum Foundations 2015	National Institute of Technology, Patna, India	December 1, 2015		link	
48	Statistics, dynamics, and second law(s)	invited talk	Non Markovian Quantum Dynamics	Palazzone di Cortona, Cortona, Italy	August 27, 2015	PDF	link	
47	Second laws as statistical comparisons	contributed talk	Quantum Information Technology Symposium (QIT32)	Osaka University, Japan	May 26, 2015	PDF	link	
46	A second-law-like converse to the data-processing inequality	invited talk	QI Workshop	National Institute of Informatics, Tokyo	February 17, 2015	PDF	link	
45	Conservation of information and Markovianity	invited talk	Workshop on Quantum Metrology, Interaction, and Causal Structure	Tsinghua University, Beijing, China	December 4, 2014	PDF	link	
44	The Quantum Blackwell Theorem with some consequences	invited seminar	CQIF Seminar Series	Cambridge University, UK	July 31, 2014	PDF		
43	The Quantum Blackwell Theorem with some applications	invited seminar	QuLink Seminar Series	Tokyo University, Japan	May 26, 2014	PDF		
42	Noise and disturbance in quantum measurements: an information-theoretic approach	contributed talk	Quantum Information Technology Symposium (QIT30)	Nagoya University, Japan	May 13, 2014	PDF	link	
41	The Quantum Blackwell Theorem - with some consequences	invited talk	Workshop on Quantum Metrology, Interaction, and Causal Structure	Tsinghua University, Beijing, China	December 10, 2013		link	
40	The Quantum Blackwell Theorem with some applications	invited talk	6th Italian Conference on Quantum Information Sciences	Università dell'Insubria, Como, Italy	September 24, 2013	PDF	link	
39	Information-theoretic characterization of quantum measurements		Nagoya Winter Workshop on Quantum Information, Measurement, and Foundations (NWW2013)	Nagoya University, Japan	February 19, 2013	PDF	link	
38	Towards a one-shot entanglement theory	invited talk	Beyond i.i.d. in information theory	Cambridge University, UK	January 9, 2013	PDF	link	
37	Faithful entanglement certification	contributed talk	27th Quantum Information Technology Symposium (QIT)	Keio University, Hiyoshi Campus, Yokohama, Japan	November 27, 2012	PDF	link	
36	New rules for Bell inequalities unify quantum entanglement and quantum nonlocality	invited seminar		ICFO, Barcelona, Spain	September 3, 2012	PDF		
35	All entangled states are nonlocal: equivalence between locality and	invited seminar	Q+ Hangout Seminar Series	online videoconference	August 28, 2012		link	youtube

no.	title	type	conference/series name	place	date	slides	website	video
	separability in quantum theory							
34	New rules for Bell inequalities unify quantum entanglement and quantum non-locality	invited seminar		Department of Computer Science, Oxford University, UK	July 17, 2012			youtube
33	Game-theoretic comparison of information structures in quantum theory	invited seminar	Quantum Foundations Seminar Series	Perimeter Institute, Waterloo, Canada	October 4, 2011	PDF	link	PIRSA
32	Entanglement distillation and dilution in practical scenarios	invited talk	8th Central European Quantum Information Processing Workshop (CEQIP)	Znojmo, Czech Republic	June 3, 2011	PDF	link	
31	Information value of quantum states and channels	contributed talk	Problemi Attuali di Fisica Teorica	Vietri sul Mare, Italy	April 18, 2011	PDF	link	
30	Comparison of statistical models on general quantum systems	invited seminar		Nottingham University	September 24, 2010			
29	Comparison of statistical models on general quantum systems	invited seminar	CQIF Seminar Series	Cambridge University, UK	September 23, 2010	PDF	link	
28	Comparison of experiments on general quantum systems - a Quantum Blackwell Theorem	invited seminar	IQIS Seminar Series	Calgary University, Canada	May 25, 2010	PDF	link	
27	Quantum information theory with finite and/or correlated resources: recent results	invited seminar	ERATO-SORTS Seminar Series	ERATO-SORST Project, Tokyo, Japan	March 12, 2010	PDF		
26	Private quantum decoupling and secure disposal of information	invited talk	International Workshop on Quantum Information Science	Tokyo University, Japan	March 8, 2010	PDF	link	
25	Towards a theory of entanglement for finite resources: single-shot entanglement cost	invited seminar	CQIF Seminar Series	Cambridge University, UK	October 14, 2009		link	
24	The quantum capacity of channels with arbitrarily correlated noise	contributed talk	16th International Congress on Mathematical Physics (ICMP)	Prague, Czech Republic	August 6, 2009	PDF		
23	Lest we remember a quantum: quantum information shredding	invited seminar		National Centre for Quantum Informatics, Gdansk, Poland	March 24, 2009	PDF	link	
22	Lest we remember a quantum: quantum information shredding	invited seminar		Nottingham University, UK	February 25, 2009			
21	Secure decoupling of quantum systems: how to shred quantum information	invited seminar	CQC Seminar Series	Cambridge University, UK	December 4, 2008		link	
20	Irreversibility of entanglement loss	invited seminar		National Center for Quantum Informatics, Gdansk, Poland	April 15, 2008	PDF	link	
19	Entanglement loss along a channel	contributed talk	3rd Workshop on Theory of Quantum Computation, Communication,	Tokyo University, Japan	January 30, 2008	PDF	link	

no.	title	type	conference/series name	place	date	slides	website	video
			and Cryptography (TQC)					
18	Information extraction versus disturbance in quantum theory: an information theoretic approach	invited seminar	QUIT Seminar Series	Pavia University, Italy	November 8, 2007			
17	Information dynamics in quantum measurements: an entropic approach to the information-disturbance tradeoff problem	contributed talk	International School of Complexity, 8th Course: Noise, Information, and Complexity at the Quantum Scale	Ettore Majorana Center, Erice, Italy	November 5, 2007	PDF		
16	Information dynamics in quantum measurements	invited seminar		Instytut Fizyki Teoretyczej i Astrofizyki, Gdansk, Poland	October 30, 2007	PDF		
15	Information gain and approximate reversibility of quantum measurements	contributed talk	International Iran Conference on Quantum Information	Kish International University, Kish, Iran	September 9, 2007	PDF	link	
14	A general entropic approach to the information-disturbance tradeoff problem of quantum measurements	contributed talk	Asian Conference on Quantum Information Science	Shiran Kaikan, Kyoto, Japan	September 4, 2007		link	
13	Information gain and approximate reversibility of quantum measurements	contributed talk	3rd Asia Pacific Conference on Quantum Information Science	Nanyang Executive Center, Singapore	August 1, 2007	PDF		
12	Information-theoretic approach to quantum measurement correction	contributed talk	16th Quantum Information Technology Symposium (QIT)	NTT Atsugi R&D Center, Atsugi, Japan	May 18, 2007	PDF	link	
11	Information gain of quantum measurements	invited talk	International Workshop on Quantum Information and Measurement	Tohoku University, Sendai, Japan	March 20, 2007	PDF		
10	Information-disturbance tradeoff in quantum state discrimination	contributed talk	Asian Conference on Quantum Information Science	Friendship Hotel, Beijing, China	September 2, 2006	PDF	link	
9	Information flow in decoherence processes	invited talk	38th Symposium in Mathematical Physics	Institute of Physics, Nicolaus Copernicus University, Torun, Poland	June 5, 2006	PDF	link	
8	Broadcasting quantum information	invited seminar		ERATO Project, Tokyo, Japan	January 16, 2006	PDF		
7	Optimal super-broadcasting maps of mixed qubit states	invited seminar		National University of Singapore	October 21, 2005	PDF		
6	Optimal covariant channels and the role of noise in quantum measurement	invited seminar		Imperial College, London, UK	July 21, 2005	PDF		
5	Ordering of measurements according to quantum noise	contributed talk	Workshop: Quantum Entanglement in Physical and Information Sciences	Pisa, Italy	December 15, 2004			
4	Ordering of measurements	contributed talk	YEP Meeting	Budmerice, Slovakia	December 2, 2004	PDF	link	

no.	title	type	conference/series name	place	date	slides	website	video
	according to quantum noise							
3	Repeatable measurements without eigenstates	contributed talk	Workshop: Quantum Statistics - Quantum Measurements, Estimation, and Related Topics	Newton Institute, Cambridge, UK	November 19, 2004			
2	Repeatable measurements without eigenstates	contributed talk	5th European QIPC Workshop	Università La Sapienza, Roma, Italy	September 21, 2004	PDF		
1	Physical realization of quantum operations	contributed talk	Informal Quantum Information Gathering (IQING)	Max-Planck Institute, Garching, Germany	December 3, 2003	PDF	link	

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