

CURRICULUM VITAE



Mário Ziman, 08/02/2026

name	Mário Ziman	http://quantum.physics.sk/people/ziman/
profession	quantum physicist	date of birth 01/09/1977
occupation	director / researcher	place of birth Nitra (N 48.3° E 18.1°)
work address	Institute of Physics Slovak Academy of Sciences Dúbravská cesta 9, 84511 Bratislava, Slovakia	nationality Slovak
orcid	0000-0002-4805-5890	marital status married (2 kids)
		home Bratislava, Slovakia
		e-mail ziman@savba.sk



employment history

01/2022 – today	Institute of Physics, Slovak Academy of Sciences, Bratislava head of Research Center for Quantum Information
10/2019 – today	director of Institute of Physics
07/2011 – 10/2019	head of Research Center for Quantum Information
11/2008 – 06/2011	independent researcher
11/2004 – 10/2008	Štefan Schwarz Postdoctoral Fellow (part-time)
07/2004 – 11/2005	research assistant (part-time)
10/2003 – 06/2004	obligatory civil service
09/2000 – 09/2003	PhD student
08/2011- 07/2012	ETH Zurich, Switzerland SCIEX Postdoctoral Fellow
09/2012 – 12/2020	Faculty of Informatics, Masaryk University, Brno researcher (part-time)
09/2005 – 06/2011	researcher (part-time)
07/2004 – 12/2004	postdoctoral fellow
09/2003 – 06/2008	Quiverse, non-profit research organization, Bratislava member of the administration board, researcher (part-time)
09/2000 – 06/2001	Elementary school and gymnasium for gifted children, Teplická 7, Bratislava physics teacher (part-time)

scientific degrees

12/2010	habilitation (doc), Masaryk University, Brno
09/12/2003	philosophae doctor (PhD), Comenius University, Bratislava
06/2000	magister of physics (Mgr), Comenius University, Bratislava

scientometry

81	number of scientific publications
1	number of monographs
6	number of unpublished/submitted manuscripts (available on arXiv)
46	number of popular-science publications
47 (19 invited)	number of conference talks
2043/2524/4030	number of citations (WOK/Scopus/GScholar)
23/24/30	h-index (WOK/Scopus/GScholar)
22	number of years since PhD defense

CURRICULUM VITAE

education history

08/2011- 07/2012	SCIEX Postdoctoral Fellow, ETH Zurich supervisor: Prof. Renato Renner
11/2004 - 10/2008	Štefan Schwarz Postdoctoral Fellow, Institute of Physics, Bratislava supervisor: Prof. Vladimír Bužek
07/2004 -12/2004	postdoctoral fellow, Faculty of Informatics, Masaryk University, Brno supervisor: Prof. Jozef Gruska
09/2000 – 09/2003	PhD study, Institute of Physics, Slovak Academy of Sciences, Bratislava program: General and Mathematical Physics, Comenius University, Bratislava thesis: Entanglement as a structure: applications to quantum information processing supervisor: Prof. Vladimír Bužek
09/1995 – 06/2000	Faculty of mathematics and physics, Comenius university, Bratislava branch: theoretical and mathematical physics thesis: Quantum dense coding and measures of entanglement supervisor: Prof. Vladimír Bužek
09/1992 – 06/1995	Secondary grammar school, Golianova 38 (Starý gypel), Nitra
09/1984 – 06/1992	Elementary school, ZŠ Nábřežie Mládeže, Nitra (class specialized on athletics)

personal skills

languages

Slovak – mother tongue
English – listening B2, reading C1, spoken interaction/production B2, writing C1
Russian – listening A2, reading B1, spoken interaction/production A2, writing A2

computer skills

programming – Python, Pascal, C (for all only elementary knowledge)
operating systems – Linux, Windows
software – Office, Mathematica, latex, Gimp,
webdesign – html, PHP, CSS,

driving licence

B

awards

2011	SCIEX Fellowship
2007	V4 Academies Prize
2007	Slovak Academy of Science Award for popularization
2006	Prize of the Ministry of education SR, Young researcher
2004	Slovak Physicists Society, Competition of young physicists publication (3 rd place)
2004	Slovak Academy of Sciences Award, Best publication of young scientists (1 st place)

research Internships

05/2016	University of Turku, Finland (Dr. Teiko Heinosaari)
06/2011	University of Turku, Finland (Dr. Teiko Heinosaari)
03/2011	Herriot-Watt University, Edinburgh, United Kingdom (Dr. Erika Anderson)
03/2006	Macquarrie University, Sydney, Australia (prof. Jason Twamley)
11/2004	Institut fur Mathematikal Physik, Braunschweig, Germany (prof. Reinhard Werner)
10 – 11/2002	Department of Mathematical Physics, Maynooth, Ireland (prof. Jason Twamley)
11/2000	Erwin Schrodinger Institute, Vienna, Austria (prof. Anton Zeilinger)

memberships

2021 – now	National center for quantum technologies QUTE.sk (head of executive board)
2018 – 2021	Quantum Technology Platform (executive coordinator)
2018 – now	EC Quantum Community Network (representative of Slovakia)
2015 – now	Editorial Board of Journal Open System and Information Dynamics

CURRICULUM VITAE

2014 – 2018	Scientific board of Institute of Physics of Slovak Academy of Sciences (deputy)
2006 – 2010	Scientific board of Institute of Physics of Slovak Academy of Sciences
2014 – now	Committee for Bachelor degrees (FMFI UK, Bratislava)

teaching activities

	Faculty of mathematics, physics and informatics, Comenius University, Bratislava
2016 – now	Introduction to quantum information processing (W, PhD, 2+2h)
2016 – now	Selected topics from quantum information theory (S, PhD, 2+2h)
2016 – now	Quantum mathematical structures (W, PhD, 2+2h)
2016 – now	Quantum theory of measurement (W, Mgr, 2+1h)
2016 – now	Quantum Information theory (W, Mgr, 2+1h)
2007 – 2014	Introduction to quantum information theory (S, Bc, 2+0h)
2001 – 2003	Exercises in quantum mechanics II (S, Mgr, 0+2h)
2000	Exercises in statistical physics and thermodynamics (S, Mgr, 0+2h)
	Faculty of Informatics, Masaryk University, Brno
2018 – now	Physics concepts of quantum information processing (S, Mgr, 2+1 h)
2018 – 2025	Introduction to quantum computer programming (W, Bc, 2 h)
2004 – 2017	Selected topics from quantum physics (W, Bc, 2+0h)
2004 – 2012	Hot topics in quantum information processing (S, Mgr, 2+0 h)
2006 – 2012	Quantum seminar (WS, Mgr, 2+0 h)
	Faculty of Electrical Engineering, Slovak Technical University, Bratislava
2020 – now	Programming Quantum Computers (W, Bc, 2+2h)
2022 – now	Quantum Computing (W, Eng., 2+2h)
	Faculty of Electrical Engineering, Slovak Technical University, Bratislava
2020 – now	Quantum Computing (W, Eng., 2+2h)

supervising activities

	graduate students
09/2024 – now	Kartik Kakade,
09/2023 – now	Ieline Ahmed, (with A. Ghoreishi)
09/2023 – now	Samgeeth Puliyil, (with L. Leppajarvi)
09/2022 – now	Soham Sau, Optimisation of higher-order quantum structures (with M. Sedlák)
09/2019 – 08/2024	Nidhin Sudarshan Ragini, Quantum measurements: labeling and incompatibility
09/2019 – now	Nana Siddharth, Quantum thermodynamics
09/2018 – 08/2020	Shivang Srivastava, Quantum networks
09/2017 – 08/2024	Jaroslav Pavličko, Quantum programming and learning
09/2012 – 08/2020	Libor Caha, Ground states of local Hamiltonians výpočty, (with D. Nagaj)
09/2008 – 08/2012	Tomáš Rybár, Quantum channels with memory, (with V. Bužek)
	undergraduate students
2015	Šimon Valko, Probabilistic learning of quantum measurements, FMFI UK, Bratislava
2009	Lenka Moravčíková, Dynamics of quantum entanglement, FMFI UK, Bratislava
2009	Martin Piják, Imperfect quantum key distribution, FMFI UK, Bratislava
2008	Tomáš Rybár, Quantum memory channels, FMFI UK, Bratislava
2005	Martina Bieliková, Quantum concepts in cryptography, FMFI UK, Bratislava
	bachelor students
2025	Diana Valková, Entanglement-swapping with nonmaximally entangled states, FI MU
2024	Vadym Shydkyi, How to create superposition of quantum states?, FMFI UK, Bratislava
2017	Jan Kužilek, Protocols for anonymous voting, FI MU, Brno
2014	Jan Příklad, Equivalent programmable quantum processors, FI MU, Brno
2013	Šimon Valko, Nonuniform unitary 1-designs, FMFI UK, Bratislava
2013	Matej Valúšek, Correlated quantum graphs, FI MU, Brno
2010	Jan Hreha, Partial quantum teleportation, FMFI UK, Bratislava

organizing activities

	scientific conferences (member of organizing team)
15-19.09.2025	HOAQS 2025, Stará Lesná, https://sites.google.com/view/hoaqs2025/
30.06-03.07.2025	CEQIP 2025, Smolenice, http://ceqip.eu/2025
03-06.06.2024	CEQIP 2024, Skalica, http://ceqip.eu/2024
05-08.09.2023	CEQIP 2023 ++), Smolenice, http://ceqip.eu/2023
03-06.06.2019	CEQIP 2019, Skalica, http://ceqip.eu/2019
13-16.06.2018	CEQIP 2018, Smolenice, http://ceqip.eu/2018
22-23.03.2018	MACROQUAS COST workshop, http://quantum.physics.sk/conf/macroquas2018/
31.5-3.06.2017	CEQIP 2017, Smolenice,, http://ceqip.eu/2017/
06-09.06.2016	MATHERMO 2016, Smolenice, http://quantum.physics.sk/conf/mathermo2016/
16-19.06.2016	CEQIP 2016, Valtice, http://www.ceqip.eu/2016/
18-21.06.2015	CEQIP 2015, Znojmo, http://www.ceqip.eu/2015/
23-27.06.2014	12th IQSA Meeting, Olomouc, http://ameql.math.muni.cz/iqsa2014/
04-08.06.2014	CEQIP 2014, Znojmo, http://www.ceqip.eu/
05-09.06.2013	CEQIP 2013, Valtice, http://www.ceqip.eu/
07-10.06.2012	CEQIP 2012, Smolenice, http://www.ceqip.eu/
02-05.06.2011	CEQIP 2011, Znojmo,, http://www.ceqip.eu/
03-06.06.2010	CEQIP 2010, Valtice, http://www.ceqip.eu/
01-04.06.2009	CEQIP 2009, Jindřichuv Hradec,, http://www.ceqip.eu/
05-08.06.2008	CEQIP 2008, Telč, http://www.ceqip.eu/
24-27.06.2007	CEQIP 2007, Valtice, http://www.ceqip.eu/
11-14.12.2006	YEP meeting 2006, Budmerice, http://quantum.physics.sk/conf/yep2006/
27.9.-01.10.2006	Focus meeting: QuProcEst, Budmerice, http://quantum.physcis.sk/quprest06/
04-08.05.2006	CEQIP 2006, Znojmo, http://www.ceqip.eu/
11-14.10.2005	YEP meeting 2005, Budmerice, http://quantum.physics.sk/conf/yep2005/
30.11-04.12.2004	YEP meeting 2004, Budmerice, http://quantum.physics.sk/conf/budmerice2004/
11-14.10.2003	YEP meeting 2003, Budmerice, http://quantum.physics.sk/conf/budmerice2003/
	schools (member of organization team)
04-08.09.2022	Quapital summer school 2022, Smolenice, http://qute.sk/quapital2022.html
24-28.08.2022	Informal quantum symposium 2020, Smolenice, https://qute.sk/iqas2020.html
30.09-06.10.2019	Quapital summer school 2019, Bratislava, https://quapital.eu/index.php?id=105
19-22.02.2018	1st eduQUTE School, Bratislava, http://qute.sk/
18-28.08.2014	Qute Europe Summer School, Smolenice, http://quantum.physics.sk/conf/qess2014/
21-27.09.2009	V4 quantum school, Budmerice, http://quantum.physics.sk/conf/v4school/

selected publications

- 2023
3 citations
David Davalos, Mario Ziman
Quantum dynamics is not strictly divisible
Phys. Rev. Lett. 130, 080801 (2023) [arXiv:2203.13451]
- 2019
31 citations
David Davalos, Mário Ziman, Carlos Pineda:
Divisibility of qubit channels and dynamical maps
Quantum 3, 144 (2019) [arXiv:1812.11437]
- 2019
50 citations
Michal Sedlák, Alessandro Bisio, Mário Ziman:
Optimal probabilistic storage and retrieval of unitary channels
Phys. Rev. Lett. 122, 170502 (2019) [arXiv:1809.04552]
- 2017
76 citations
Sergey N. Filippov, Jyrki Piilo, Sabrina Maniscalco, Mário Ziman:
Divisibility of quantum dynamical maps and collision models
Phys. Rev. A 96, 032111 (2017) [arXiv:1708.04994]
- 2016
192 citations
Teiko Heinosaari, Takayuki Miyadera, Mário Ziman:
An Invitation to Quantum Incompatibility
Journal of Physics A 49, 123001 (2016), [arXiv:1511.07548]
- 2014
43 citations
Sergey N. Filippov, Mário Ziman:
Entanglement sensitivity to signal attenuation and amplification
Phys. Rev. A 90, 010301(R) (2014) [arXiv:1405.1754]
- 2012
87 citations
Tomáš Rybár, Sergey N. Filippov, Mário Ziman, Vladimír Bužek:
Simulation of indivisible qubit channels in collision models
J. Phys. B: At. Mol. Opt. Phys. 45, 154006 (2012), [arXiv:1202.6315]
- 2012
580 citations
Teiko Heinosaari, Mário Ziman:
The Mathematical Language of Quantum theory: From Uncertainty to Entanglement (Cambridge Univ. Press, 2012) ISBN:9780521195836
- 2010
39 citations
Lenka Moravčíková, Mário Ziman:
Entanglement-annihilating and entanglement-breaking channels
J.Phys.A 43, 275306 (2010) [arXiv:1006.2502]
- 2008
67 citations
Mário Ziman:
Process POVM: A mathematical framework for the description of process tomography experiments, Phys. Rev. A 77, 062112 (2008) [arXiv:0802.3862]
- 2006
185 citations
Mark Hillery, Mário Ziman, Vladimír Bužek, Martina Bieliková:
Towards quantum-based privacy and voting
Physics Letters A 349, Issues 1-4, pp 75-81 (2006), [quant-ph/0505041]
- 2005
100 citations
Mário Ziman, Peter Štelmachovič, Vladimír Bužek:
Description of quantum dynamics of open systems based on collision-like models
Open systems and information dynamics 12, 81-91 (2005), [quant-ph/0410161]
- 2003
105 citations
Mário Ziman, Vladimír Bužek:
All (qubit) decoherences: Complete characterization and physical implementation
Phys. Rev. A 72, 022110 (2005), [quant-ph/0505040]
- 2003
43 citations
Mário Ziman and Vladimír Bužek:
Correlation assisted quantum communication
Phys. Rev. A 67, 042321 (2003), [quant-ph/0205078]
- 2002
273 citations
Valerio Scarani, Mário Ziman, Peter Štelmachovič, Nicolas Gisin, Vladimír Bužek:
Thermalizing Quantum Machines: Dissipation and Entanglement
Phys. Rev. Lett. 88, 97905-1 (2002), [quant-ph/0110088]
- 2002
72 citations
Mark Hillery, Vladimír Bužek, Mário Ziman:
Probabilistic implementation of universal quantum processors
Phys. Rev. A 65, 022301 (2002), [quant-ph/0106088]
- 2002
154 citations
M. Ziman, P. Štelmachovič, V. Bužek, M. Hillery, V. Scarani, N. Gisin:
Diluting quantum information: An analysis of information transfer in system-reservoir interactions, Phys.Rev. A 65, 042105 (2002), [quant-ph/0110164]