



Maria Anastasia Jivulescu

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Universitatea Politehnica Timișoara, Piața Victoriei, nr 2, 300006, Timișoara, România

EXPERIENȚA PROFESIONALĂ

2016 – ÎN CURS – Timișoara

CONFERENȚIAR DR., DEPARTAMENTUL DE MATEMATICĂ, UNIVERSITATEA POLITEHNICA TIMIȘOARA

2011 – 2016

LECTOR DR., DEPARTAMENTUL DE MATEMATICĂ, UNIVERSITATEA POLITEHNICA TIMIȘOARA

2001 – 2011

PREPARATOR/ASISTENT UNIV., DEPARTAMENTUL DE MATEMATICĂ, UNIVERSITATEA POLITEHNICA TIMIȘOARA

02/2010 – 08/2010

POSTDOC, GRUPUL DE TEORIA INFORMAȚIEI CUANTICE, NIELS BOHR INSTITUTE, COPENHAGA, DANEMARCA

2006 – 2008

POSTDOC, DEPARTAMENTUL DE FIZICĂ, UNIVERSITATEA DIN PALERMO, ITALIA

08/2009 – 11/2009

BURSIERĂ INSTITUTUL ERWIN SCHRODINGER, VIENA, AUSTRIA

EDUCAȚIE ȘI FORMARE PROFESIONALĂ

2002 – 2008

DOCTOR ÎN MATEMATICĂ, CU TEZA "TEORIA ECUAȚIILOR OPERATORIALE ȘI APLICAȚIILE LOR IN MECANICA CUANTICĂ", COORDONATOR: PROF.DR. DUMITRU GAȘPAR – Universitatea de Vest Timișoara

2000 – 2002

MASTER "CERCETĂRI OPERAȚIONALE ȘI CONTROL OPTIMAL" – Facultatea de Matematică, Universitatea de Vest, Timișoara

• **HOBBY-URI ȘI TEME DE INTERES**

Subiecte de cercetare

Teoria Operatorilor, Teoria Informației Cuantice,

• **PERIOADE FORMARE/PARTICIPARI LA CONFERINTE**

Perioade formare/Participari la conferinte

August 2022 "Order preserving maps on quantum measurements", Xveme Colloque Franco-Roumain de Mathematiques Appliquees, Toulouse (prezentare)

June 2021 "Entanglement criterion in QIT", Operator Theory Seminar, Institute of Mathematics of the Romanian Academy (prezentare-online)

February 2021 "Structural Properties of Quantum Incompatibility", Conference Quantum Information Processing, Munchen (poster-online)

June 2019 "On random POVMs" Summer School on Generalized Probability Theories and Quantum Information Theory, L'Université de Lyon 1 (prezentare)

Mai 2014 "On the reduction criterion for random quantum states", seminar in grupul de Matematica-Fizica, Tehnical University Munchen (prezentare)

Decembrie 1-12, 2014 School of Operator spaces, Noncommutative probability and Quantum groups, Métabief organizat de Laboratoire de Mathematic de Besancson, Franta (prezentare)

Octombrie 25 2009 "A review of the central spin model dynamics", Research Center in Quantum Information of The Academy of Science, Bratislava, Slovacia (prezentare)

Octombrie 15/17 2009 "The exact solution of the operator-difference equation with noncommutative and nonconstant coefficients" Institute of Applied Mathematics, University of Klagenfurt, Austria

Septembrie 21/27 2009 Scoala de vara Quantum Information, organizat de Research Center in Quantum Information of The Academy of Science, Bratislava, Slovacia

August-October 2009 Program de cercetare "Entanglement and correlations in many-body quantum mechanics", International Erwin Schroedinger Institute for Mathematical Physics, Viena, Austria

Mai 11/15 2009 Satellite Workshop of Isaac Newton Institute For Mathematical Sciences, University of Cambridge, Cambridge, UK - Algebraic Theory of Difference Equations 11 - 15 May 2009, University of Leeds, UK

Februarie 16/21 2009 Workshop on "Mathematical Methods in Quantum Mechanics", Bressanone-Brixen, Italia

Februarie 9/15 2009 Erasmus Teaching Program pe tema "Gaudin's method for diagonalizing the generalized spin star models" at Department of Physics and Astronomy, University of Palermo, Italia

August 18/22 2008 Workshop " Anderson Localization and Related Phenomena", Isaac Newton Institute For Mathematical Sciences, University of Cambridge, Cambridge, UK

Iulie 14/25 2008 Scoala de vara " Anderson Localization Transition: Introductory Training Course", Isaac Newton Institute For Mathematical Sciences, University of Cambridge, Cambridge, UK

Decembrie 2006 Seminarul "Non-Markovian Quantum Dynamics: Foundations and Applications to Relaxation and Transport Processes", by Dr. Heinz-Peter Breuer, Freiburg University, Germania

Martie /Iulie 2001 Bursa Erasmus Lab of Mathematics. Application and Mathematical Physics, University of Orleans, Franta

COMPETENȚE ORGANIZATORICE

CONFERINTE ORGANIZATE

Sesiune speciala de QIT în cadrul ediției 27 a Conferinței Operator Theory "Connection to QIT 2-7 Iulie 2018, Timișoara (co-organizator Ion Nechita)

Workshop "On Mathematical Methods of Quantum Information Theory", Timișoara, 5-7 Noiembrie 2015 (co-organizator I. Nechita)

PUBLICAȚII

Publicații

1. **M.A. Jivulescu**, C. Lancien, I. Nechita, Multipartite Entanglement Detection Via Projective Tensor Norms. *ANN. Henri Poincaré* (2022), <https://doi.org/10.1007/s00023-022-01187-9>
2. T. Heinosaari, **M.A. Jivulescu**, I. Nechita, *Random positive operator valued measures*, JOURNAL OF MATHEMATICAL PHYSICS, 61, 042202 (2020)
3. Sergey Filippov, Kamil Magadov, **M.A. Jivulescu** *Absolutely separating quantum maps and channels*, NE W J. Phys. 19, 083010, 2017
4. **M.A. Jivulescu**, I. Nechita, P. Gavruța, *On symmetric decompositions of positive operators*, J. PHYS. A: Math. Theor. 50 165303, 2017
5. **M.A. Jivulescu**, N. Lupa, I. Nechita *Thresholds for Reduction-Related Entanglement Criteria in Quantum Information Theory – QUANTUM INFORMATION and COMPUTATION*, Vol 15, Nr. 13/14, pag1165-1184, 2015
6. **M.A. Jivulescu**, N. Lupa, I. Nechita, D. Reeb Positive reduction from spectra, LINEAR ALGEBRA and its APPLICATIONS, Volume 469, Pag. 276-304, [doi:10.1016/j.laa.2014.11.031](https://doi.org/10.1016/j.laa.2014.11.031), NOV 2015
7. **M.A. Jivulescu**, N. Lupa, I. Nechita On the reduction criterion for random quantum states, JOURNAL OF MATHEMATICAL PHYSICS, Volume: 55, Issue: 11, Article Number: 112203-1-27, NOV 2014
8. **M.A. Jivulescu**, A. Messina Exact treatment of operator difference equations with nonconstant and noncommutative coefficients, JOURNAL OF ENGINEERING MATHEMATICS, Volume: 82, Issue: 1, Pag. 149-160, Special Issue: SI, DOI: 10.1007/s10665-012-9602-9, oct 2013
9. T. Heinosaari, **M.A. Jivulescu**, D. Reeb, M.M. Wolf Extending quantum operations JOURNAL OF MATHEMATICAL PHYSICS, Volume: 53 Issue: 1 Article Number: 102208, oct 2012
10. **M. A. Jivulescu**, A. Napoli, A. Messina General solution of a second order non-homogenous linear difference equation with noncommutative coefficients, APPLIED MATHEMATICS AND INFORMATION SCIENCES, Volume 4, Issue 1, Pag. 1-14, 2010
11. Teiko Heinosaari, **M. A. Jivulescu**, Daniel Reitzner, and Mario Ziman Approximating incompatible von Neumann measurements simultaneously, PHYS. REV. A 82, 032328, 2010.
12. **M.A. Jivulescu**, A. Messina, A. Napoli, F. Petruccione Exact treatment of linear difference equations with non-commutative coefficients MATHEMATICAL METHODS IN THE APPLIED SCIENCES, 30; 2147-2153, 2007
13. **M.A. Jivulescu**, A. Napoli, A. Messina Elementary symmetric functions of two solvents of a quadratic matrix equation REPORTS on MATHEMATICAL PHYSICS, 62, 3, 369-387, 2008
14. E. Ferraro, H.-P. Breuer, A. Napoli, **M.A. Jivulescu**, A. Messina Non-Markovian dynamics of a single electron spin coupled to a nuclear spin bath PHYSICAL REVIEW B, 78, 6, 064309 -1-8, 2008
15. R. Messina, **M. A. Jivulescu**, A. Messina, A. Napoli Riccati equation-based generalization of Dawson's integral function MATHEMATICAL METHODS IN THE APPLIED SCIENCES, 30; 2055-2064, 2007
16. **M.A. Jivulescu**, P. Găvruta, *Indices of sharpness for Parceval frames, quantum effects and observables*, Buletinul Științific al Universității Politehnica din Timișoara, Volum (74), 2, pp 17-29, 2015

GRANTURI DE CERCETARE

Granturi de cercetare

2013/2016 **Director** al Proiectului de cercetare "Tehnici de Matrici Aleatoare în Teoria Informației Cuantice" PN-II-ID-JRP-2011-2, Autorității Române Naționale pentru Cercetarea Științifică CNCS-UEFISCDI, proiect Romania –Franța, partener Dr. Ion Nechita, University Paul Sebatier Toulouse, Franța

2010 Proiect de cercetare FP7-ICT-2007-C "Quantum Engineering via Dissipation" Quantum Information Theory Group, Coordonator Prof. M.M. Wolf, Niels Bohr Institute, University of Copenhagen, Danmarca

2007 membru în Proiectul de cercetare "Mathematical modulation based on coherent and squeezed states of bio-photons generated by human cells", Romanian Ministry of Instruction University and Research, Coordonator Prof.Dr. Draganescu Ghe., Facultea de Mecanica, Universitatea Politehnica Timișoara

2007 membru în Proiectul de cercetare "Control and stability of dynamical systems with stochastic perturbations and applications to economy and aeronautic", of the Romanian Ministry of Instruction University and Research, Coordonator Conf. Dr. Negrea Romeo, Departamentul de Matematica, Universitatea Politehnica Timișoara

PREMII

Premii

Iunie 2019 **Profesor Invitat**, Universitatea Paul-Sabatier, Toulouse, Franța
Junior Research Fellowship, International Erwin Schroedinger Institute for Mathematical Physics, Viena, Austria, August-October, 2009 (programul de cercetare "Entanglement and correlations in many-body quantum mechanics")

Prize "Francesca Palumbo" for the best Poster în cadrul 14-th Central European Workshop on Quantum Optics, Palermo, Italia, 1-5 June, 2007

COMPETENȚE LINGVISTICE

Limbă(i) maternă(e): **ROMANA**

Altă limbă (Alte limbi):

	COMPREHENSIVNE		VORBIT		SCRIS
	Comprehensiune orală	Citit	Exprimare scrisă	Conversație	
ENGLEZĂ	B2	B2	B2	B2	B2
ITALIANĂ	B2	B2	B2	B2	B2
FRANCEZĂ	B1	B1	B1	B1	B1

Niveluri: A1 și A2 Utilizator de bază B1 și B2 Utilizator independent C1 și C2 Utilizator experimentat