

Alba Cervera Lierta | CV

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Education

Doctor of Philosophy (PhD) <i>Supervisor: Dr. José Ignacio Latorre</i>	Universitat de Barcelona 2015 – 2019
Master in Astrophysics, Particle Physics and Cosmology <i>Specialized in Particle Physics and Gravitation.</i>	Universitat de Barcelona 2014 – 2015
Bachelor in Physics <i>Specialized in Fundamental Physics</i>	Universitat de Barcelona 2009 – 2014

Experience and Collaborations

Postdoctoral Fellow <i>Alan Aspuru-Guzik group</i>	University of Toronto 2019 –
Technical Researcher <i>Quantic group (CASE department)</i>	Barcelona Supercomputing Center (BSC) 2017 – 2019
Visiting Scholar <i>Dr. César Gómez's group.</i>	Instituto de Física Teórica (CSIC) Feb 2017
Visiting Scholar <i>Four months stay at Dr. Juan Rojo's group.</i>	University of Oxford 2016
Specialized Technician <i>Project: "Entanglement, tensor networks and cold gases"</i> Simulation of frustrated systems using tensor networks algorithms.	Universitat de Barcelona 2014

Teaching

Teacher Assistant	Universitat Autònoma de Barcelona 2017 – 2019
Teacher Assistant	Universitat de Barcelona 2016 – 2017

Awards and Honors

PhD Excellent Cum Laude	Universitat de Barcelona Jun 2019
Teach Me QISKit Award <i>For writing and programming an interactive self-paced Jupyter Notebook tutorial that explains a specific focus topic in quantum computing using QISKit and the IBM Q Experience</i>	IBM Jun 2018

Publications

Data Re-uploading for a Universal Quantum Classifier <i>A. Pérez-Salinas, A. Cervera-Lierta, E. Gil-Fuster, J. I. Latorre</i> Quantum 4 , 226 (2020).	2020
Quantum Circuits for Maximally Entangled States <i>A. Cervera-Lierta, J. I. Latorre, D. Goyeneche</i> Physical Review A 100 , 022342 (2019).	2019
Exact Ising Simulation on a Quantum Computer <i>A. Cervera-Lierta</i> Quantum 2 , 114 (2018).	2018
Multipartite Entanglement in Spin Chains and the Hyperdeterminant <i>A. Cervera-Lierta, A. Gasull, J. I. Latorre and G. Sierra.</i>	2018

Journal of Phys. A: Math. Theor. **51**, 505301 (2018).

Maximal Entanglement in High Energy Physics

A. Cervera-Lierta, J. I. Latorre, J. Rojo and L. Rottoli
SciPost Phys. **3**, 036 (2017).

2017

Operational Approach to Bell Inequalities: Application to qutrits

D. Alsina, A. Cervera, D. Goyeneche, J. I. Latorre and K. Zyczkowski
Phys. Rev. A **94**, 032102 (2016)

2016

Preprints

Maximal Entanglement: Applications in Quantum Information and Particle Physics

PhD Thesis

A. Cervera-Lierta

2019

arXiv:1906.12099 [quant-ph].

Seminars and Talks

Maximal Entanglement in Quantum Computation

BSC

Severo Ochoa Doctoral Symposium

May 07, 2019

Maximal Entanglement: Applications to Quantum Computation and Particle Physics

University of Toronto

MatterLab group meeting

Mar 01, 2019

Maximal Entanglement in High Energy Physics

CFSN Stony Brook, NY

Workshop on Quantum Entanglement at Collider Energies.

Sep 11, 2018

The Quantum Revolution

ESADE Business School

Seminar at Master in Finance

Jun 07, 2018

Exact Simulation of a QPT in a Quantum Computer

Universitat de Barcelona

Workshop on Quantum Phase Transitions

Apr 06, 2018

Emergence of Gauge Symmetry from a Maximal Entanglement Principle

Universidad Complutense de Madrid

Seminar

Sep 21, 2016

Outreach

Articles

Computación Cuántica en la Nube

RSEF

Revista Española de Física

Mar 2020

How I became a quantum computation scientist

Medium article for @qiskit

Jul 2018

Contributing Writer

Quantum World Association

Medium articles, @quantum_wa.

2018 –

Talks

Technology to manipulate Nature

El País con tu Futuro

Madrid, Spain

Dec 18, 2018

Quantum Computation: a new paradigm

TEDx talk

Sant Feliu de Llobregat, Barcelona, Spain

Sep 15, 2018

Quantum Computation

Cosmocaixa (Science Museum)

Researcher's Night 2018

Sep 28, 2018

High School talks

Every year, for the International Day of Women and Girl in Science and the Science Week

Other skills

Programming Languages.....

Classic: Fortran, Python, Latex, Mathematica.

Quantum: QISKit (IBM), Forest (Rigetti Computing), Cirq (Google), Tequila (MatterLab)

Languages.....

English (fluent), Spanish (mothertongue), Catalan (mothertongue).

Communication.....

Twitter: Creator and manager of research group's account, @QUANTIC_BSC (until Jul 2019).

Webpage: Research group webpage manager, quantic.bsc.es (until Nov 2018).

Media: I have had several interviews in Spanish national newspapers and participated in radio programs.