



ALBERTO ACEVEDO

+1 909-763-1876

albertoacevedo@math.arizona.edu

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[Click here for my ResearchGate page](#)

CURRENT POSITION

PostDoc | *Quantum information, Open quantum systems and Quantum computation*
Universidad CEU Cardenal Herrera

July 2024 – ongoing
Valencia, Spain

EDUCATION

Ph.D. | *Applied Mathematics* ([click for my dissertation](#))
University of Arizona

Aug 2017 – November 2023
Tucson, Arizona, USA

Ph.D. Minor | *Physics*
University of Arizona

Aug 2017 – November 2023
Tucson, Arizona, USA

Masters of Science | *Applied Mathematics*
University of Arizona

August 2017– May 2020
Tucson, Arizona, USA

Bachelor of Science | *Mathematics*
California State University of San Bernardino

September 2011 – June 2015
San Bernardino, California, USA

Bachelor of Science | *Physics*
California State University of San Bernardino

September 2011 – June 2015
San Bernardino, California, USA

RESEARCH INTEREST

My interests lie primarily in Open Quantum Systems, Quantum Information and Computation, Quantum Optics, Quantum Foundations, Quantum Many-Body Physics, Operator Theory and Stochastic Processes.

PUBLICATIONS, PREPRINTS AND PH.D. DISSERTATION

[1] A. Acevedo, A. Falcó. "[Finite-time quantum equilibration for continuous variables](#)". Preprint November 2024, undergoing submission process.

[2] A. Acevedo, J. Korbicz, J. Wehr. "[Spectrum Broad Cast Structures from von Neumann type interaction Hamiltonians with Continuous Variables](#)". Preprint September 2024, submitted to AIP Publishing's Journal of Mathematical Physics.

[3] A. Acevedo, J. Korbicz, J. Wehr. "[Spectrum Broad Cast Structures from von Neumann type interaction Hamiltonians](#)". J. Math. Phys. 65, 122102 (2024); DOI: <https://doi.org/10.1063/5.0208953> .

[4] A. Acevedo, J. Wehr. "[Asymptotic Quantum State Discrimination for Mixtures of Unitarily Related States](#)". Submitted to the Journal of Mathematical Physics February 2024

[5] A. Acevedo (Ph.D. Dissertation) "[Spectrum Broadcast Structures for Discrete and Continuous Variables in Open Quantum Systems](#)", Submitted to the University of Arizona's Mathematics Department In September of 2023, Defended on November 7th of 2023.

[6] A. Acevedo, B. Leroux, M. Curry, N. Malaya and S H. Joshi "[Vandermonde Wave Function Ansatz for Improved Variational Monte Carlo](#)", in The 5th Deep Learning on Supercomputers Workshop: Proc. of the 2020 int Conf. for High-Performance Computing, Networking, Storage and Analysis [SC20](#) [Online].

AWARDS

The University of Arizona's GPSC Travel grant For participating in the SOLVAY 2019 workshop on Quantum Simulation (click for details)	Spring 2019 Brussels, Belgium
Graduate Access Fellowship Domestic Academic Scholarship (click for details)	Fall 2017 - Summer 2018 University of Arizona
Graduate College Fellowship Domestic Academic Scholarship (click for details)	Fall 2017 - Summer 2018 University of Arizona

CONFERENCES, SUMMER SCHOOLS, AND WORKSHOPS THAT I RECEIVED FUNDING TO PARTICIPATE IN.

Potential Theory Workshop Centro de Investigación en Matemáticas (Funded by The NSF)	September 28th- October 7th, 2023 Guanajuato, Mexico
Advanced Studies Institute in Analysis on Fractal Spaces and Dynamical Systems Urgench State University (Funded by The NSF)	August 4-13, 2023 Urgench, Uzbekistan
Séminaire de Mathématiques Supérieures on Periodic and Ergodic Spectral Problems Université de Montréal (Funded by The NSF)	July 11-29, 2023 Montréal, Canada
First-Passage Percolation and Related Models International Centre for Theoretical Sciences Bangalore (Funded by The NSF)	July 11-29, 2022 Bangalore, India
SOLVAY 2019 workshop on Quantum Simulation Université Libre de Bruxelles (Funded by GPSC University of Arizona)	February 18-20, 2019 Brussels, Belgium

TEACHING EXPERIENCE

Business Calculus Instructor (MATH 116 Online Course) The University of Arizona	Summer 2023 Tucson, Arizona, USA
Business Calculus Instructor (MATH 116) The University of Arizona	Spring 2023 Tucson, Arizona, USA
Precalculus Instructor (MATH 120R) The University of Arizona	Fall 2022 Tucson, Arizona, USA
Differential Equations Discussion Session TA (MATH 254) The University of Arizona	Fall 2020 Tucson, Arizona, USA
Exploring and Understanding Data TA (MATH107 Online Course) The University of Arizona	Summer 2020 Tucson, Arizona, USA
Business Calculus Instructor (MATH 116) The University of Arizona	Spring 2019 Tucson, Arizona, USA
College Algebra Instructor (MATH 112) The University of Arizona	Fall 2018 Tucson, Arizona, USA
Exploring and Understanding Data TA (MATH107) The University of Arizona	Spring 2018 Tucson, Arizona, USA
College Algebra Instructor (MATH 112) The University of Arizona	Fall 2017 Tucson, Arizona, USA

PAST PROJECTS/INTERNSHIPS

Summer research intern Topic : (<i>Quantum Montecarlo methods for the N body problem</i>) IPAM/ AMD virtual internship (click for publication) (click for report)	Summer 2020
Summer research Aid Topic : (<i>Computational methods for Quantum Chemistry with Qiskit</i>) Argonne National Laboratory (click for presentation)	Summer 2019 Illinois, USA
Internship Topic : <i>Differential Geometry: Linear dependencies of curvature tensors</i> California State University of San Bernardino (click for report)	Summer 2014 San Bernardino, California, USA
Internship Topic : <i>Quantum dynamics project on Lie algebra methods</i> Brigham Young University	Summer 2013 Provo, Utah, USA
Internship Topic : <i>Coloring problems in graph theory</i> California State University of San Bernardino (click for report)	Summer 2012 San Bernardino, California, USA

TALKS

"Asymptotical Distinguishability of Quantum Mixtures" (click for slides) The University of Arizona Applied Math Student Seminar (announcement)	Sept 20 (2023) Tucson, Arizona, USA
"Machine Learning as an Alternative Wavefunction Ansatz to Improve Variational Monte Carlo" The International Conference for High-Performance Computing, Networking, Storage, and Analysis (click for slides) (announcement)	Nov 11 (2020) Virtual Conference, USA
"Open Quantum Systems" (click for slides) The University of Arizona Applied Math Student Seminar (announcement)	April 24 (2020) Tucson, Arizona, USA
"Decoherence and Spectrum Broadcast Structures" The University of Arizona Applied Math Student Seminar (announcement)	April 15 20 (2019) Tucson, Arizona, USA
"Quantum, Lie Algebras and Dissipation" (click for slides) Colorado State University, APS Four Corners Conference (announcement)	Oct 18 (2014) Denver, Colorado, USA

GRADUATE COURSEWORK TAKEN DURING GRADUATE CAREER (UNIVERSITY OF ARIZONA)

Quantum Mechanics(2 semesters), Electrodynamics, Statistical Machine Learning, General Relativity, Partial Differential Equations (Three semesters), Stochastic Processes, Numerical Analysis (2 semesters), Analysis (2 Semesters), Mathematical Methods in Applied Mathematics(2 semesters), Complex Analysis, Probability Theory, Spectral Theory and Quantum Mechanics (Topics Course), Monte Carlo Methods.

SKILLS

Languages: English (Native), Spanish (Native), French (B2), Russian(A2), Japanese(N4)
Programming: Python (Pytorch, Qutip, Qiskit), MATLAB, R
Document Creation: LaTeX