Pablo ANDRÉS-MARTÍNEZ

CONTACT INFORMATION

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	Cambridge, CB2 1NL, United Kingdom
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RESEARCH INTEREST

- Quantum programming languages and compilers
- Optimisation of quantum circuits
- Graphical methods for reasoning and computation
- Category theory

WORK EXPERIENCE

May 2022-current	*Research Scientist* at Quantinuum Ltd. on the TKET (compiler) team.

SCIENTIFIC PUBLICATIONS

- P. Andres-Martinez, C. Heunen, R. Kaarsgaard (2022) "Universal properties of partial quantum maps" *Quantum Physics and Logic*.
Preprint: https://arxiv.org/abs/2206.04814

- P. Andres-Martinez, C. Heunen (2022) "Weakly measured while loops: peeking at quantum states" *Quantum Science and Technology*.
Preprint: https://arxiv.org/abs/2009.08832

- P. Andres-Martinez, C. Heunen (2019) "Automated distribution of quantum circuits via hypergraph partitioning" *Physiscal Reviews A*.
Preprint: https://arxiv.org/abs/1811.10972

EDUCATION

Sept. 2018-Nov. 2022	PhD in Quantum Computer Science, **University of Edinburgh**, UK
	Supervisor: Chris Heunen
	Thesis: "*Unbounded loops in quantum programs: categories and weak while loops*" — https://arxiv.org/abs/2212.05371
Sept. 2017-Sept. 2018	MSc by Research, **University of Edinburgh**, UK
	Thesis: "*Automated distribution of quantum circuits*"
Sept. 2016-Sept. 2017	MSc in Advanced Computer Science, **University of York**, UK
	Thesis: "*FLINT: functional language to interaction net translator*"
Sept. 2012-July 2016	Computer Engineering Degree (B.Eng.), **Universidad de Málaga**, Spain
	Thesis: "*Graph grammars for complex behavior*"

Awards and Funding

Sept. 2017- Sept. 2021	*Stipend scholarship for MSc+PhD studies*, CDT in Pervasive Parallelism Funds from the EPSRC and the School of Informatics (Univ. of Edinburgh)
Nov. 2016	*Award to the best academic records*, Univ. Malaga (funded by EL PAIS) (for students finishing their Bachelor degrees during 2015-2016, Univ. Malaga) Achieved 1st position in the academic record list (1,500€).
Aug. 2016	*Stipend scholarship for PG studies in EU*, Obra Social "la Caixa" Awarded to 65 students. Less than 7% of submissions were awarded. (£1,300 per month. One year duration. Fully funded tuition fees)
Jan. 2016	*Scholarship for Initiation to Scientific Research*, Universidad de Malaga Awarded to the B.Eng. thesis project (1,800€)
Sept. 2012- July 2016	B.Eng. studies partially funded by achieving honours awards. *Honours*: Thesis and 25/37 subjects (aprox. 65% of total cost funded)

Teaching Experience

Teaching support. Gave tutorials on the following courses:

- Introduction to Computation: Functional Programming
  University of Edinburgh, Autumn term, 2020

- Categories and Quantum Informatics
  University of Edinburgh, Spring term, 2020

- Introduction to Theoretical Computer Science
  University of Edinburgh, Spring term, 2019

- Introduction to Quantum Computing
  University of Edinburgh, Autumn term, 2018

Languages

ENGLISH:	Fluent. Living in the United Kingdom from 2016.
SPANISH:	Native.