

Pablo ANDRÉS-MARTÍNEZ

CONTACT INFORMATION

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

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- PhD in Quantum Computer Science, **University of Edinburgh**, UK
Nov. 2022 Supervisor: Chris Heunen
Thesis: “*Unbounded loops in quantum programs: categories and weak while loops*” — <https://arxiv.org/abs/2212.05371>

Sept. 2017- MSc by Research, **University of Edinburgh**, UK
Sept. 2018 Thesis: “*Automated distribution of quantum circuits*”

Sept. 2016- MSc in Advanced Computer Science, **University of York**, UK
Sept. 2017 Thesis: “*FLINT: functional language to interaction net translator*”

Sept. 2012- Computer Engineering Degree (B.Eng.), **Universidad de Málaga**, Spain
July 2016 Thesis: “*Graph grammars for complex behavior*”

AWARDS AND FUNDING

- Sept. 2017- *Stipend scholarship for MSc+PhD studies*, CDT in Pervasive Parallelism
Sept. 2021 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- B.Eng. studies partially funded by achieving honours awards.
July 2016 *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.