Curriculum Vitae – Xavier Poncini

Address: Dept. of Mathematics and System Analysis, Aalto University, Espoo, Finland
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Employment

2023 – present	**Postdoctoral researcher**, Aalto University
2022 – 2023	**Senior research assistant**, The University of Queensland
2018 – 2023	**Machine learning researcher**, Max Kelsen (consulting firm)

Education

2019 – 2023 **Doctor of Philosophy**, The University of Queensland
Thesis: *Planar-algebraic models*
Principal adviser: Prof. Jørgen Rasmussen (UQ)
Associate advisers: Prof. Bergfinnur Durhuus (UCPH), A/Prof. Jon Links (UQ)

2015 – 2018 **Bachelor of Advanced Science** (Hons. Class I), The University of Queensland
Thesis: *Integrable boundary conditions in lattice loop models*
Adviser: Prof. Jørgen Rasmussen

Research interests

I am interested in statistical-mechanical models that give rise to quantum field theories in their continuum limit.

Keywords. Planar algebras, Yang-Baxter integrability, axiomatic quantum field theory, conformal field theory, Thompson's groups, causal dynamical triangulation, quantum groups, link invariants.

Publications

2023 **Integrable models from singly generated planar algebras**
X. Poncini, J. Rasmussen
Nucl. Phys. B **994** (2023) 116308

Integrability of planar-algebraic models
X. Poncini, J. Rasmussen
J. Stat. Mech. (2023) 073101

2021 **Critical behaviour of loop models on causal triangulations**
B. Durhuus, X. Poncini, J. Rasmussen, M. Ünel
J. Stat. Mech. (2021) 113102

Approximations in transmon simulation
T. Jones, K. Steven, X. Poncini, M. Rose, A. Fedorov
Phys. Rev. Applied **16** (2021) 054039

Talks

2024 **Mathematical physics seminar**, Aalto University

2023 **Mathematical physics seminar**, The University of Melbourne

Mathematical physics seminar, Aalto University

2022 **AustMS annual meeting**, Sydney, Australia

ANZAMP annual meeting, Melbourne, Australia

2021 **Mathematical physics seminar**, The University of Queensland

2020 **QMATH seminar**, University of Copenhagen

Postgraduate seminar, The University of Queensland

2018 **Mathematical physics seminar**, The University of Queensland

Programming languages

Python (advanced), Mathematica (advanced), TikZ (advanced), SageMath (basic)

Referees

Jørgen Rasmussen (adviser)
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The University of Queensland
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Eric Ragoucy
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