Charles Stewart Hadfield

General

Nationality: New Zealander (birth)
French (naturalisation)
USA residency: Green card
Date of Birth: June 1991

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Employment

IBM Quantum, New York 2020 - present

Applications Researcher/Mathematician, T.J. Watson Research Center

Rigetti Quantum Computing, Berkeley 2018 - 2019

Applications Researcher/Mathematician, Theory Division

University of California, Berkeley 2017 - 2018

Charles B. Morrey, Jr. Assistant Professor

Education

École normale supérieure, Paris 2014 - 2017

Doctorate: Structures de Clifford paires et résonances quantiques
Supervisors: Colin Guillarmou, Andrei Moroianu

Université Pierre et Marie Curie, Paris 2013 - 2014

Master 2 Pure Mathematics

The University of Auckland 2010 - 2013

Honours in Mathematics, July 2012 - June 2013
BSc majoring in Mathematics and Physics, 2010 - June 2012

Scholarships and Prizes

Finalist for Rhodes Scholarship 2014 (one of seven New Zealand candidates)
Paris Graduate School of Mathematical Sciences International Scholarship, 2013 - 2014
Collins Prize in Mathematics (top student in Honours), 2013
Wacher Prize for Academic Head of School, Christ's College, 2009
HM Chrystall Prize for All-round Merit in Sport & Scholarship, Christ's College, 2009
First Prize in New Zealand Junior Mathematics Competition, 2006

Languages

Julia, Python
English (native), French (fluent), Spanish (tourist), Japanese (rusty)

Sport

2017 - 2019	Cal Sailing Club, Berkeley
2013 - 2017	Elite Level C.A.Montrouge Hockey, Paris
2010 - 2013	Premier Level Somerville Hockey Club, Auckland
2002 - 2012	Canterbury, Auckland, NZ Hockey Representative and Umpire

Publications

Measurements of quantum Hamiltonians with locally-biased classical shadows
arXiv:2006.15788, submitted, with S. Bravyi, R. Raymond, and A. Mezzacapo

Appendix for *Spectral theory of the frame flow on hyperbolic 3-manifolds*
arXiv:2005.08387, submitted, authors: C. Guillarmou and B. Küster

Ruelle zeta function from field theory
arXiv:2002.03952, Annales Henri Poincaré, with S. Kandel and M. Schiavina

Zeta function at zero for surfaces with boundary
arXiv:1803.10982, accepted

Ruelle and quantum resonances for open hyperbolic manifolds
arXiv:1708.01200, IMRN

Local geometry of even Clifford structures on conformal manifolds
arXiv:1611.01665, Ann. Glob. Anal. Geom, with A. Moroianu

Resonances for symmetric tensors on asymptotically hyperbolic spaces
arXiv:1609.06527, Anal. PDE

Twistor spaces of Riemannian manifolds with even Clifford structures
arXiv:1602.04159, Ann. Glob. Anal. Geom, with G. Arizmendi

Talks

Fermionic encodings; a workshop on the variational quantum eigensolver
January 2020, TJ Watson Research Center, New York
February 2020, Keio University, Tokyo

Dynamical zeta functions on surfaces with boundary
November 2019, UC Berkeley

Lectures on topological quantum error correction
July 2019, Rigetti Quantum Computing

A quantum/classical correspondence on hyperbolic manifolds
November 2017, Stanford University

Resonances on asymptotically hyperbolic manifolds; the ambient metric approach
March 2018, UC Santa Cruz
September 2017, Bay Area Microlocal Analysis Seminar
March 2017, Luminy
October 2016, Université d'Avignon

Géométrie hyperbolique et la fonction zeta de Selberg
February 2016, École normale supérieure

Dynamical zeta functions for Anosov flows, after Dyatlov, Zworski
May 2015, Peyresq

Espaces de twisteurs sur des variétés quaternion-kählériennes
June 2014, Université Pierre et Marie Curie

Teaching

Honours Introduction to Complex Analysis
Spring 2018, 3rd year undergraduate, UC Berkeley

Introduction to Analysis
Spring 2018, 3rd year undergraduate, UC Berkeley

Introduction to Abstract Algebra
Fall 2017, 3rd year undergraduate, UC Berkeley

Introduction to Differential Geometry
Spring 2015, 3rd year undergraduate, Université Paris-Dauphine