## Charles Stewart Hadfield

GENERAL Nationality: New Zealander (birth) charleshadfield.com

French (naturalisation) charles.hadfield@gmail.com

Visa status: O-1 (Green Card: in process)

Date of Birth: June 1991

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 Finalist for Rhodes Scholarship 2014 (one of seven New Zealand candidates)

AND PRIZES 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

Zeta function at zero for surfaces with boundary

arXiv:1803.10982, submitted

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

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, 3<sup>rd</sup> year undergraduate, UC Berkeley

Introduction to Analysis

Spring 2018, 3<sup>rd</sup> year undergraduate, UC Berkeley

Introduction to Abstract Algebra

Fall 2017, 3<sup>rd</sup> year undergraduate, UC Berkeley

Introduction to Differential Geometry

Spring 2015,  $3^{\rm rd}$  year undergraduate, Université Paris-Dauphine