

RUADHAÍ DERVAN

Email: ruadhaidervan@warwick.ac.uk

POSITIONS

University of Warwick Reader, Royal Society University Research Fellow.	September 2025 - present
University of Glasgow Professor (March - September 2025), Senior Lecturer (2022 - 2025), Royal Society University Research Fellow.	September 2022 - present
University of Cambridge Royal Society University Research Fellow.	October 2020 - September 2022
Gonville & Caius College, University of Cambridge Fellow (2021 - 2022), Research Fellow (2016 - 2021).	October 2016 - September 2022
École Polytechnique, Paris Postdoctoral position, hosted by Sébastien Boucksom.	September 2017 - August 2018
Université libre de Bruxelles Visiting PhD student, hosted by Joel Fine. Fondation Wiener-Anspach Scholar.	February - August 2016

EDUCATION

PhD in Mathematics , University of Cambridge St. John's College Thesis title "Canonical Kähler metrics and K-stability". Supervised by Julius Ross.	2012 - 2016
Part III of the Mathematical Tripos (MASt) , University of Cambridge St. John's College Distinction.	2011 - 2012
B.A.(Mod) Mathematics , Trinity College Dublin First class honours, Foundation Scholar.	2007 - 2011

PUBLICATIONS AND PREPRINTS

Arc K-semistability is a very general property	<i>arXiv:2504.15195</i> , 13 pp.
Arcs, stability of pairs and the Mabuchi functional (<i>with R. Reboulet</i>)	<i>arXiv:2409.13617</i> , 38 pp.
On divisorial stability of finite covers (<i>with T. Papazachariou</i>)	<i>Forum Math. Sigma</i> Vol. 12 (2024) e65, pp. 1-29
The universal structure of moment maps in complex geometry (<i>with M. Hallam</i>)	<i>arXiv:2304.01149</i> , 39 pp.
The birational geometry of GIT quotients (<i>with R. Reboulet</i>)	<i>Bull. Lond. Math. Soc.</i> (to appear), 14 pp.
Ding stability and Kähler-Einstein metrics on manifolds with big anticanonical class (<i>with R. Reboulet</i>)	<i>J. Reine Angew. Math.</i> Vol. 2024, no. 816 (2024), pp. 201-239
Stability conditions in geometric invariant theory (<i>appendix by A. Ibáñez Núñez</i>)	<i>Q. J. Math.</i> Vol. 76, no. 1 (2025), pp. 287-311
Extremal Kähler metrics on blowups (<i>with L. Sektnan</i>)	<i>arXiv:2110.13579</i> , 41 pp.
Stability conditions for polarised varieties	<i>Forum Math. Sigma</i> Vol. 11 (2024) e104, pp. 1-57
Z-critical connections and Bridgeland stability conditions (<i>with J. McCarthy and L. Sektnan</i>)	<i>Camb. J. Math.</i> Vol. 12 (2024), no. 2, pp. 253-355
Valuative stability of polarised varieties (<i>with E. Legendre</i>)	<i>Math. Ann.</i> Vol. 385 (2023) pp. 357-391

Uniqueness of optimal symplectic connections (with L. Sektnan)	<i>Forum Math. Sigma</i> Vol. 9 (2021) e18, pp. 1-37
Moduli theory, stability of fibrations and optimal symplectic connections (with L. Sektnan)	<i>Geom. Topol.</i> 25-5 (2021), pp. 2643-2697
Optimal symplectic connections on holomorphic submersions (with L. Sektnan)	<i>Comm. Pure Appl. Math.</i> Vol. 74 (2021) Issue 10, pp. 2134-2184
K-semistability of optimal degenerations	<i>Q. J. Math.</i> Vol. 71 (2020) Issue 3, pp. 989-995
Moduli of polarised manifolds via canonical Kähler metrics (with P. Naumann)	<i>Ann. Inst. Fourier (Grenoble)</i> (to appear), 28 pp.
Extremal metrics on fibrations (with L. Sektnan)	<i>Proc. Lond. Math. Soc.</i> (3) 120 (2020) pp. 587-616
Stable maps in higher dimensions (with J. Ross)	<i>Math. Ann.</i> Vol. 374 3-4 (2019), pp. 1033-1073
Hermitian Yang-Mills connections on blowups (with L. Sektnan)	<i>J. Geom. Anal.</i> (2021), no. 31, pp. 516-542
The Kähler-Ricci flow and optimal degenerations (with G. Székelyhidi)	<i>J. Differential Geom.</i> Vol. 116 (2020), no. 1 pp. 187-203
Relative K-stability for Kähler manifolds	<i>Math. Ann.</i> Vol. 372 3-4 (2018) pp. 859-889
K-stability for Kähler manifolds (with J. Ross)	<i>Math. Res. Lett.</i> Vol. 24 No. 3 (2017), pp. 689-739
A finite dimensional approach to Donaldson's J-flow (with J. Keller)	<i>Comm. Anal. Geom.</i> (2019) Vol. 27, no. 5. pp. 1025-1085
On K-stability of finite covers	<i>Bull. Lond. Math. Soc.</i> (2016) 48 (4) pp. 717-728
Non-reductive automorphism groups, the Loewy filtration and K-stability (with G. Codogni)	<i>Ann. Inst. Fourier (Grenoble)</i> 66 no. 5 (2016) pp. 1895-1921
Alpha invariants and coercivity of the Mabuchi functional on Fano manifolds	<i>Ann. Fac. Sci. Toulouse Math. Sér. 6,</i> 25 no. 4 (2016), pp. 919-934
Uniform stability of twisted constant scalar curvature Kähler metrics	<i>Int. Math. Res. Not. IMRN</i> (2016) Vol 15 pp. 4728-4783
Alpha invariants and K-stability for general polarizations of Fano varieties	<i>Int. Math. Res. Not. IMRN</i> (2015) Vol 16 pp. 7162-7189

OTHER TEXTS

Editor of “Moduli of K-stable varieties” conference proceedings, with G. Codogni and F. Viviani.	<i>Springer INdAM Series</i> Vol 31 (2019)
Appendix to “On K-polystability of cscK manifolds with transcendental cohomology class” by Z. Sjöström Dyrefelt.	<i>Int. Math. Res. Not. IMRN</i> (2020) Vol. 9 pp. 2769-2817

GRANTS

Isaac Newton Institute Programme Grant	2024
Funded to hold a programme titled “New equivariant methods in algebraic and differential geometry”, with G. Bérczi, D. Brotbek, V. Hoskins, F. Kirwan and V. Nanda.	
London Mathematical Society Collaborations with Developing Countries Grant	2024
Awarded to fund a two-week visit of Vamsi Pingali of the Indian Institute of Science Bangalore to the UK.	
Royal Society Enhanced Research Expenses Grant	2023
Awarded to fund three PhD students.	
Royal Society Enhanced Research Expenses Grant	2022
Awarded to fund a postdoctoral research assistant for fifteen months.	
American Institute of Mathematics SquaRE Grant	2021 - 2023
Awarded to fund collaborative visits to AIM California in three successive years (virtually in 2021), with T. Murphy, J. Ross, L. Sektnan and X. Wang.	

London Mathematical Society Conference Grant	2021
Awarded to fund the workshop “K-stability and Kähler geometry” in Cambridge, with E. Legendre.	
Royal Society University Research Fellowship	2020
Five year grant covering personal salary and research expenses. Renewed in 2025 through 2028.	
CNRS Travel Grant	2020
Awarded with E. Legendre to fund visitors to Cambridge and personal travel costs for two years.	
French Government Fellowship Host	2020
Host for E. Legendre’s fellowship in Churchill College, University of Cambridge, for nine months in 2020.	
London Mathematical Society Research in Pairs Grant	2018
Awarded to fund a visit of L. Sektnan to the University of Cambridge.	
ICMS Research in Groups Grant	2018
Awarded to fund a one month stay at the ICMS Edinburgh to participate in their Research in Groups program, with L. Sektnan.	
INdAM Grant	2016
Awarded to fund the workshop “Moduli of K-stable varieties” in Rome, with G. Codogni, J. Stoppa and F. Viviani.	
London Mathematical Society ECM Grant	2016
Awarded to fund personal costs of the European Congress of Mathematics 2016 in Berlin.	
London Mathematical Society Scheme 8 Grant, Foundation Compositio Grant	2015
Awarded to fund “Postgraduate Conference in Complex Geometry” at the University of Cambridge, with J. Ross.	

ACADEMIC VISITS

Isaac Newton Institute, University of Cambridge	Spring - summer 2024
Organised and participated in the programme “New equivariant methods in algebraic and differential geometry” for several months.	
Centre de Recherches Mathématiques, Montréal	Spring 2024
Simons scholar, participated in a thematic programme on geometry for four weeks.	
University of Oxford	February 2023
Visiting Frances Kirwan for four weeks.	
University of Notre Dame	September 2016
Visited Gábor Székelyhidi for three weeks.	
Simons Center for Geometry and Physics, Stony Brook University	September - October 2015
Participated in the program “Moduli spaces and singularities in algebraic and Riemannian geometry” for four weeks.	

CONFERENCE TALKS

Workshop on K-stability, East China Normal University (<i>upcoming</i>)	January 2026
Singular canonical Kähler metrics on compact and non-compact manifolds, Budapest	September 2025
Polarized varieties and their applications, Hawaii	July 2025
Fibrations and Deformations, Brest	June 2025
Birational Geometry and K-stability in Moduli Spaces, Université du Québec à Montréal	March 2025

Kähler and non-Archimedean geometry, Lyon	November 2024
Gothenburg Complex Geometry, Gothenburg	August 2024
Current Trends in Kähler Metrics with Special Curvature Properties, CRM Montréal	June 2024
K-stability and birational geometry, Clay Research Workshop, Oxford	September 2023
UK Algebraic Geometry Network Meeting, Nottingham	September 2023
London-Paris Geometry Day, Jussieu	May 2023
Higher Dimensional Geometry, Simons Center for Geometry and Physics	May 2023
Birational Geometry and K-stability of Fano varieties, ICMS Edinburgh	November 2022
Kähler and non-Kähler Geometry: New Developments and Interactions, Aarhus	June 2022
Edge Days, University of Edinburgh	December 2021
Workshop on complex algebraic and analytic geometry, Tsinghua University (<i>virtual</i>)	May 2021
AMS Special Session on Differential Geometry and Geometric PDE, Los Angeles (<i>virtual</i>)	May 2021
Edge Days, University of Edinburgh (<i>virtual</i>)	December 2020
K-stability, Simons Center for Geometry and Physics (<i>virtual</i>)	September 2020
Fano Varieties, Cone Singularities and their Links, University of Edinburgh	November 2019
Stability and Canonical Metrics on Bundles and Varieties, Brest	June 2019
Current Developments in Complex and Analytic Geometry, Cortona	June 2019
Birational Geometry, Kähler-Einstein metrics and Degenerations, HSE Moscow	April 2019
Singular metrics in Kähler geometry, CIRM Marseille	February 2019
Cambridge-Tokyo Algebraic Geometry Workshop, Isaac Newton Institute	December 2018
Degenerations of Calabi-Yau Manifolds, Institut Henri Poincaré Paris	May 2018
Constant Scalar Curvature Metrics in Kähler and Sasaki Geometry, CIRM Marseille	January 2018
Symposium in Geometry and Differential Equations, AMSS Beijing	July 2017
Current Developments and New Directions in Kähler Geometry, University of Notre Dame	June 2017
Positivity in Algebraic and Complex Geometry, ICMS Edinburgh	April 2017
Cambridge-Tokyo Algebraic Geometry Workshop, Isaac Newton Institute	March 2017
European Congress of Mathematics Berlin, Symposium Talk	July 2016
Recent Advances in Complex Differential Geometry, Toulouse	June 2016
Edge Days, University of Edinburgh	June 2015
Irish Workshop on Kähler Geometry and Geometric Analysis, University College Cork	May 2014

SEMINAR TALKS

University of Oxford (<i>upcoming</i>)	March 2026
Loughborough University	December 2025
University of Newcastle	November 2025
University of St Andrews	November 2025
Yau Mathematical Sciences Center, Tsinghua (<i>colloquium, virtual</i>)	May 2025
University of Warwick	April 2024
University of Nottingham	April 2024
University of Glasgow	October 2024
University of Cambridge	October 2024
Tsinghua University (<i>virtual</i>)	March 2024
Università degli Studi di Roma Tor Vergata	December 2023
University of York	October 2023
Université libre de Bruxelles	June 2023
Université du Québec à Montréal	May 2023
UCLA Birational Geometry Seminar (<i>virtual</i>)	April 2023
ITS Westlake (<i>virtual</i>)	April 2023
University of Glasgow	January 2023
ICTP/SISSA Trieste	December 2022
University of Edinburgh	November 2022
University of Southern Denmark	October 2022
Aarhus-Gothenburg Complex Geometry Seminar	October 2022
École polytechnique fédérale de Lausanne	June 2022
University of Gothenburg Chalmers	May 2022
University College London	May 2022
Indian Institute of Science (<i>virtual</i>)	February 2022
Université du Québec à Montréal (<i>virtual</i>)	November 2021
University of Oxford	November 2021

London Geometry and Topology Seminar	October 2021
Liverpool University	October 2021
Tokyo Institute of Technology (<i>virtual</i>)	June 2021
Loughborough University	June 2021
Zoom Algebraic Geometry Seminar (<i>virtual</i>)	July 2020
University of Gothenburg Chalmers (<i>virtual</i>)	July 2020
University of Birmingham	February 2020
ICTP Trieste	January 2020
Université libre de Bruxelles	December 2019
University of Oxford	June 2019
University of Notre Dame	March 2019
University of Illinois at Chicago	March 2019
Université Grenoble Alpes	November 2018
École polytechnique fédérale de Lausanne	April 2018
Université Paul Sabatier Toulouse (<i>two talks</i>)	April 2018
Aarhus University	February 2018
Joint Bochum, Duisburg-Essen, Köln and Wuppertal Complex Geometry Seminar	February 2018
Université Paris-Sud	January 2018
University of Gothenburg Chalmers	November 2017
École Polytechnique Paris	November 2017
Université du Québec à Montréal	October 2017
Rutgers University-Newark	October 2017
Joint King's College London and University College London Geometry Seminar	October 2017
SISSA Trieste	May 2017
Université Pierre-et-Marie-Curie (Paris VI Jussieu)	May 2017
University of Edinburgh	February 2017
Newcastle University	December 2016
Imperial College London	November 2016
University of Notre Dame	September 2016

Université Paul Sabatier Toulouse	May 2016
Università degli Studi di Pavia	November 2015
Joint Johns Hopkins University and University of Maryland Complex Geometry Seminar	October 2015
Simons Center for Geometry and Physics, Stony Brook University	September 2015
Università degli Studi Roma Tre	March 2015
Université Pierre-et-Marie-Curie (Paris VI Jussieu)	February 2015
Università degli Studi di Pavia	November 2014
Aix-Marseille Université	November 2013
Junior seminars in Imperial College London (twice), Université libre de Bruxelles and University of Bath (Calf Junior Algebraic Geometry Seminar)	2013 - 2015

MINICOURSES AND EXPOSITORY TALKS

Workshop on K-stability , Bordeaux (<i>upcoming</i>) Four-hour course on arcs and K-stability.	May 2026
Geometric Structures and Stability , ICTS Bangalore (<i>upcoming</i>) Three-hour course on the theory of Z-critical connections.	February 2026
Winter School on K-stability , CIRM Marseille Four-hour course titled “Valuations and stability of polarised varieties”, joint with E. Legendre.	March 2025
Séminaires des Mathématiques Supérieures , Montréal Four-hour course titled “Geometric invariant theory, moment maps, K-stability and its variants”.	June 2024
Geometry and Topology of (Almost) Complex Structures , held virtually One-hour expository lecture titled “Stability in Kähler geometry”.	May 2023
Loughborough University Four-hour minicourse titled “The complex geometry of Bridgeland stability conditions”.	March 2021

POSTDOCS

Elena Denisova, EPSRC Doctoral Prize Fellow at the University of Glasgow	September 2025 - August 2027
Theo Papazachariou, Royal Society funded postdoc at the University of Glasgow, then Simons Foundation/Isaac Newton institute funded postdoc at the Universities of Cambridge and Glasgow.	October 2022 - September 2024
Rémi Reboulet, Royal Society funded postdoc at the University of Cambridge.	Spring - autumn 2022

PHD STUDENTS

Shing Tak Lam, PhD student at the University of Warwick.	2024 - present
Yaoqi Yang, PhD student at the University of Warwick.	2024 - present
Mahmoud Elimam, PhD student at SISSA Trieste, co-supervised by Jacopo Stoppa.	2023 - present
Gabriel Frey, PhD student at the University of Warwick.	2023 - present
Annamaria Ortu, PhD student at SISSA Trieste, co-supervised by Jacopo Stoppa.	2020 - 2023

John McCarthy, PhD student at Imperial College London, co-supervised by Simon Donaldson.
2019 - 2022

Michael Hallam, DPhil student at the University of Oxford, co-supervised by Frances Kirwan.
2018 - 2022

RESEARCH MASTER'S AND UNDERGRADUATE STUDENTS

Audrey Antoine, M2 (Master's level) research, visited Glasgow from Université Paris-Saclay, co-supervised by Inder Kaur.
Spring - summer 2024

Ioannis Karagiorgis, undergraduate research, Glasgow, co-supervised by Theo Papazachariou.
Summer 2023

Theresa Ortscheidt, undergraduate research, Glasgow, co-supervised by Theo Papazachariou.
Summer 2023

Alexia Corradini, M1 (Master's level) research, visited Cambridge from École Polytechnique.
Spring - summer 2022

Ho Leung Fong, undergraduate research, Cambridge.
Summer 2021

Qiangru Kuang, undergraduate research, Cambridge.
Summer 2019

TEACHING

Mathematics Institute, University of Warwick
Master's Thesis Supervisor
Supervised Master's theses in algebraic and differential geometry.
2025 - present

Department of Mathematics & Statistics, University of Glasgow
Master's Thesis Supervisor
Supervised Master's theses in algebraic and differential geometry.
2023 - 2025

Scottish Mathematical Sciences Training Centre (PhD level)
Lecturer
Lectured Riemann Surfaces, a 16-hour course.
Winter 2023

DPMMS, University of Cambridge
Lecturer
Lectured Part III Complex Manifolds, a 24-hour course.
Lent Term 2019, 2020

DPMMS, University of Cambridge
Part III Essay Supervisor
Supervised Part III Essays titled "Toric Kähler Geometry" (2020) and "Deformed Hermitian Yang-Mills Connections on Holomorphic Line Bundles" (2021).
2020, 2021

DPMMS, University of Cambridge
Supervisor
Supervised Part IA Analysis (2022), Part IA Groups (2022), Part IB Analysis & Topology (2019, 2020, 2021), Part IB Complex Analysis (2022), Part IB Geometry (2022), Part II Differential Geometry (2016) and Part II Riemann Surfaces (2018).
2016 - 2022

Linyi University, China
Summer Lecturer
Lectured an introductory 12-hour course on partial differential equations to final year mathematics undergraduates.
July 2012

COMMITTEE MEMBERSHIP

Warwick Zeeman Lectureship Hiring Committee member, University of Warwick
November 2025

Member of Senate, University of Glasgow
October 2023 - September 2025

Rankin-Sneddon Hiring Committee member, University of Glasgow
January 2023

Commemorations Committee member, Gonville & Caius College	December 2021 - September 2022
Research Fellowship (Sciences) Election Committee member, Gonville & Caius College	October 2021 - September 2022
Finance Committee member, Gonville & Caius College	October 2019 - September 2022
SCR Committee member, Gonville & Caius College	October 2018 - September 2022

CONFERENCE AND SEMINAR ORGANISATION

Co-organiser of Isaac Newton Institute programme “New equivariant methods in algebraic and differential geometry”	January - June 2024
Co-organiser of conference “K-stability and moment maps”, Isaac Newton Institute, Cambridge	May 2024
Co-organiser of seminar series “Glasgow Algebraic Geometry Seminar”	October 2023 - September 2024
Co-organiser of conference “Around complex geometry”, University of Illinois at Chicago	April 2023
Local organiser of seminar series “GLEN Algebraic Geometry Seminar”, including organisation of GLEN event in Glasgow in December 2024	September 2022 - present
Co-organiser of seminar series “Cambridge Algebraic Geometry Seminar”	October 2021 - September 2022
Co-organiser of conference “K-stability and Kähler geometry”, University of Cambridge	September 2021
Co-organiser of workshop “Newcastle Complex Geometry Workshop”, Newcastle University	July 2018
Co-organiser of conference “Moduli of K-stable Varieties”, Sapienza - Università di Roma	July 2017
Co-organiser of conference “Postgraduate Conference in Complex Geometry”, University of Cambridge	September 2016
Local organiser of seminar series “Calf Junior Algebraic Geometry Seminar”	October 2013 - January 2016
Co-organiser of seminar series “Geometry Tea Junior Seminar”	October 2013 - October 2014
Co-organiser of Departmental Happy Hour	June 2013 - September 2014

REVIEWING

Editor of Proc. Edinb. Math. Soc.	October 2024 - present
PhD external examiner of Rolf Andreasson (University of Gothenburg Chalmers, committee member, upcoming), Aashirwad Ballal (IISc Bangalore), George Cooper (University of Oxford), Alessio di Lorenzo (University College London), Pietro Piccione (Sorbonne University, Paris VI) and Mingchen Xia (University of Gothenburg Chalmers, as “opponent”)	2022 - present
Grant reviewer for EPSRC, ERC, UKRI, other international funding agencies and research centres; reviewer for Cambridge Junior Research Fellowships	2020 - present
Undergraduate admissions interviewer, Gonville & Caius College	December 2019, 2020, 2021
Referee and quick opinions for Amer. J. Math., Ann. Global Anal. Geom., Anal. Math., Asian J. Math, Bull. Lond. Math. Soc., Complex Manifolds, Compos. Math., Duke Math. J., Épijournal Géom. Algébrique, Forum Math. Pi, Forum Math. Sigma, Geom. Topol., Int. Math. Res. Notices, Invent. Math., J. Algebraic Geom., J. Amer. Math. Soc., J. Diff. Geom., J. Eur. Math. Soc., J. Lond. Math. Soc., J. Reine Angew. Math., J. Inst. Math. Jussieu, Math. Ann., Math. Res. Lett., Math. Z., Michigan Math. J., Osaka J. Math., Pure Appl. Math. Q., Proc. Amer. Math. Soc., Proc. Edinb. Math. Soc., Proc. Lond. Math. Soc., Publ. Math. Inst. Hautes Études Sci., Selecta Math., Trans. Amer. Math. Soc., three conference proceedings, zbMATH and Mathematical Reviews (MathSciNet).	2016 - present

OTHER ACTIVITIES

Royal Institute Masterclass (outreach talk for Glasgow teenagers)	November 2023
INI/ICMS Correspondent, University of Glasgow	January 2023 - present
Outreach talk in Rounday School, Leeds	March 2022

MEMBERSHIP

Edinburgh Mathematical Society	2024 - present
London Mathematical Society	2016 - present