

Navid Nabijou

Office MB-B27
School of Mathematical Sciences
Queen Mary University of London
Mile End Road, London E1 4NS
United Kingdom

n.nabijou@qmul.ac.uk
navidnabijou.com

Citizenship: British and Canadian
Birth year: 1991

Research Interests

Algebraic geometry; moduli spaces and enumerative invariants; logarithmic and orbifold structures; combinatorial and tropical geometry.

Employment

Sep 2022–present	Lecturer (Assistant Professor), Queen Mary University of London
Sep 2020–Sep 2022	Herchel Smith Postdoctoral Research Fellow, University of Cambridge
Sep 2020–Sep 2022	Research Associate, St John's College, Cambridge
Oct 2018–Aug 2020	Research Associate, University of Glasgow Mentor: Professor Michael Wemyss

Education

Oct 2014–Sep 2018	PhD in Mathematics, Imperial College London Supervisor: Professor Tom Coates
Oct 2010–Jun 2014	MSci (incorporating BSc) in Mathematics, Imperial College London First class honours. Ranked first in year.

Publications/Preprints

All arXiv preprints submitted for publication.

Feb 2024	<i>Logarithmic negative tangency and root stacks</i> with Luca Battistella and Dhruv Ranganathan arxiv:2402.08014
Oct 2023	<i>Gromov–Witten theory of bicyclic pairs</i> with Michel van Garrel and Yannik Schuler arxiv:2310.06058
Jun 2023	<i>Toric configuration spaces: the bipermutahedron and beyond</i> arxiv:2306.03215
Nov 2022	<i>Universality for tropical and logarithmic maps</i> with Gabriel Corrigan and Dan Simms Épjournal de Géométrie Algébrique (EPIGA) , to appear arxiv:2211.15719
Sep 2022	<i>Divisors and curves on logarithmic mapping spaces</i> with Patrick Kennedy-Hunt, Qaasim Shafi, and Wanlong Zheng Selecta Mathematica , to appear arxiv:2209.00630
Jul 2022	<i>Tropical expansions and toric variety bundles</i> with Francesca Carocci arxiv:2207.12541

- Mar 2022 *Gromov–Witten theory via roots and logarithms*
with Luca Battistella and Dhruv Ranganathan
Geometry & Topology, to appear
arxiv:2203.17224
- Sep 2021 *GV and GW invariants via the enhanced movable cone*
with Michael Wemyss
Moduli, to appear
arxiv:2109.13289
- Sep 2021 *Rubber tori in the boundary of expanded stable maps*
with Francesca Carocci
Journal of the London Mathematical Society, vol. 109, no. 3 (2024)
arxiv:2109.07512
- Mar 2021 *The local-orbifold correspondence for simple normal crossings pairs*
with Luca Battistella, Hsian-Hua Tseng, and Fenglong You
Journal of the Institute of Mathematics of Jussieu, vol. 22, no. 5 (2023)
arxiv:2103.09299
- Jul 2020 *Tangent curves to degenerating hypersurfaces*
with Lawrence Jack Barrott
Journal für die reine und angewandte Mathematik (Crelle’s Journal), vol. 2022, no. 793 (2022)
arxiv:2007.05016
- Aug 2019 *Gromov–Witten theory with maximal contacts*
with Dhruv Ranganathan
Forum of Mathematics, Sigma, vol. 10, e5 (2022)
arxiv:1908.04706
- Jul 2019 *Curve counting in genus one: elliptic singularities and relative geometry*
with Luca Battistella and Dhruv Ranganathan
Algebraic Geometry, vol. 8, no. 6 (2021)
arxiv:1907.00024
- Apr 2018 *The fundamental solution matrix and relative stable maps*
European Journal of Mathematics, vol. 5, no. 3 (2019)
arxiv:1804.00678
- Oct 2017 *Relative quasimaps and mirror formulae*
with Luca Battistella
International Mathematics Research Notices (IMRN), vol. 2021, no. 10 (2021)
arxiv:1710.11158
- Dec 2013 *Mutations of fake weighted projective spaces*
with Tom Coates, Samuel Gonshaw, and Alexander Kasprzyk
Electronic Journal of Combinatorics, vol. 21, no. 4 (2014)
arxiv:1312.0921

Invited Lecture Series

- Sep 2019 Mini-course: *Moduli Spaces of Curves and Hurwitz Theory*
Summer School Around Moduli Spaces, University of Saarland

Conference Grants

- Apr 2024 *Facets of Algebraic Geometry* at QMUL
LMS Celebrating New Appointments (£500)
- Sep 2023 *A Tropical Panorama* at Trinity College Dublin
Hamilton Mathematics Institute (€6000), Foundation Compositio (€2500)
with Marvin Anas Hahn

- Sep 2022 COMB in CAMB at the University of Cambridge
LMS (£5500), Foundation Compositio (€5000), Heilbronn (£3000)
with Luca Battistella
- Apr 2022 Research in Groups, ICMS, Edinburgh
with Luca Battistella and Dhruv Ranganathan
- Apr 2019 Research in Pairs, MFO, Oberwolfach
with Luca Battistella

PhD Students

- Cat Rust (2023-2027)
- Robert Crumplin (2020-2024)
(co-supervised with Alessio Corti and Konni Rietsch)

Service

- Recommendation letters at various levels: undergraduate (2), PhD (3), postdoctoral (4)
- Referee reports and quick opinions for leading journals (further details on request)
- Reviews for MathSciNet

Administration

- Sep 2023–present Deputy EDI Lead, QMUL School of Mathematical Sciences
- Feb 2022–present Advisory Board (Early-Career), UK Academy for the Mathematical Sciences
- Jan 2022–present Co-lead, EDI Ethnic Minorities Group, QMUL School of Mathematical Sciences
- Dec 2020, 2021 Undergraduate admissions at St John's College, Cambridge
Interviewing ~50 applicants, participating in decision meetings and producing in-
terview reports

Conference and Seminar Organisation

- Apr 2024 Organiser, Facets of Algebraic Geometry Conference at QMUL
- Sep 2022–present Co-organiser, QMUL Internal Mathematics Colloquium
- Sep 2023 Co-organiser, A Tropical Panorama Workshop in Dublin
- Jan 2023–April 2023 Co-organiser, QMUL Algebra and Number Theory Seminar
- Sep 2022 Co-organiser, COMB in CAMB Summer School in Cambridge
- Jan 2021–Mar 2022 Organiser, Guided Meditations in Logarithmic Gromov–Witten Theory
- Jan–Jul 2021 Organiser, Cambridge Algebraic Geometry Group Meeting
- Oct 2015–Jun 2016 Organiser, Imperial College Junior Geometry Seminar
- Nov 2012–Mar 2013 Co-founder and co-organiser, Imperial College Undergraduate Mathematics Colloquium

Teaching

Lecture Courses

- Autumn 2023 Convergence and Continuity, Queen Mary University of London
Course head and lecturer, undergraduate course, 55 hours total

- Spring 2023, 2024 Further Topics in Algebra, Queen Mary University of London
Course head and lecturer, master's course: 34 hours total
- Jan–Mar 2022 Toric Geometry (Part III), University of Cambridge
Course head and lecturer, master's course: 29 hours total
- Nov–Dec 2019 Groups, Rings and Modules, SMSTC
Course head and lecturer, second half of graduate course (video-conferenced to 8 Scottish universities): 10 hours total
- Jan–Mar 2019 Galois Theory (4H), University of Glasgow
Course head and lecturer, final-year undergraduate course: 29 hours total

Mentoring, Supervisions, Tutorials

- Sep 2022–present Advisor for undergraduate students, Queen Mary University of London
- Feb–Jun 2022 Setter and assessor for Part III essay (title: *Moduli of Curves*)
University of Cambridge
- Oct 2020–May 2022 Tutor (“supervisor”) for numerous undergraduate courses
St John’s College, Cambridge
- Jul–Aug 2021, 2022 Supervisor for undergraduate summer research projects
University of Cambridge
- Oct 2018–Sep 2019 Supervisor for master’s dissertation (title: *Hurwitz theory*)
University of Glasgow
- Oct 2014–Sep 2018 Tutor for numerous undergraduate courses
Imperial College London
- Oct 2013–Mar 2014 Mentor for first-year undergraduates
Imperial College London

Public Engagement

Talks

- Jun 2024 Count Me In, University of Edinburgh
- Apr 2024 Mathematics and Statistics Awareness Month, Northeastern University London
- Jul 2023 Undergraduate Summer Research Colloquium, University of Cambridge

Classes

- Jul 2022 *Symmetry: the world through the eyes of a mathematician*. Interactive class delivered as part of the Intro to Maths at Uni programme, encouraging students from under-represented ethnic backgrounds to apply to study mathematics at selective universities.
- Nov 2021 *The colourful world of graphs: from bridges to borders*. Interactive course delivered as part of London Maths Outreach; four lessons at Harris Academy, St John’s Wood, spread across four weeks.
- Nov 2015 *Polyhedra and Symmetry*. Interactive class delivered at Kendrick School, Reading, via the outreach office at Imperial College London.

Other

Jun 2013 Member of student panel for Undergraduate Open Day in the Department of Mathematics at Imperial College London

Research Talks

Jul 2024 *Moduli* Journal Launch, Simons Center, Stony Brook

Jul 2024 LMS Invited Lectures, Imperial College London

May 2024 COW Seminar, University of Liverpool

Apr 2024 Facets of Algebraic Geometry, QMUL

Apr 2024 Algebraic Geometry Seminar, Academia Sinica

Mar 2024 Enumerative Geometry and Arithmetic, Lorenz Center, Leiden

Feb 2024 Geometry & Topology Seminar, Imperial College London

Jan 2024 Internal School Colloquium, QMUL

Aug 2023 Curves: Algebraic, Tropical and Logarithmic, BIRS

Apr 2023 Groups, Arithmetic and Algebraic Geometry Seminar, EPFL

Mar 2023 Geometry Seminar, Trinity College Dublin

Feb 2023 Tropical Geometry and Combinatorics Seminar, QMUL

Feb 2023 RéGA Seminar, Institut Henri Poincaré, Paris

Feb 2023 Tropical Geometry in Frankfurt (TGIF), University of Frankfurt

Jan 2023 Structures in Enumerative Geometry, University of Sheffield

Nov 2022 Algebraic and Arithmetic Geometry Seminar, University of Utrecht

Nov 2022 Algebra and Number Theory Seminar, QMUL

Jun 2022 Sheffield Geometry and Physics Seminar, University of Sheffield

May 2022 Intercontinental Moduli and Algebraic Geometry Zoominar

Apr 2022 Algebraic Geometry Seminar, University of Glasgow

Jan 2022 Algebraic Geometry Seminar, University of Cambridge

Dec 2021 Online Workshop on Mirror Symmetry, Kyoto University

Nov 2021 Geometric Representation Seminar, YMSC, Tsinghua University

Nov 2021 Freemath Seminar, Lancaster/Cambridge/Imperial College

Oct 2021 Non-Archimedean and Tropical Geometry, Goethe University Frankfurt

May 2021 Weekly Geometry Seminar, KIAS

Feb 2021 Subdivisions Seminar, University of Bonn

Oct 2020 Fanosearch Group Meeting, Imperial College London

Sep 2020 Online Algebraic Geometry Seminar, University of Nottingham

- Feb 2020 Physical Mathematics Seminar, University of Heidelberg
- Feb 2020 Algebraic Geometry Seminar, University of Liverpool
- Dec 2019 Edinburgh Geometry Seminar (EDGE), University of Edinburgh
- Nov 2019 Algebraic Geometry Seminar, University of Warwick
- Oct 2019 Number Theory and Algebraic Geometry Seminar, Boston College
- Jul 2019 Workshop on Mirror Symmetry and Cluster Algebras (5CinG), University of Cambridge
- Jul 2019 Geometry and Mathematical Physics Seminar, University of Birmingham
- Jun 2019 Workshop: Logarithmic Enumerative Geometry and Mirror Symmetry, MFO, Oberwolfach
- Apr 2019 British Mathematics Colloquium, University of Lancaster
- Mar 2019 COW Seminar, University of Birmingham
- Feb 2019 Geometry and Topology Seminar, University of Glasgow
- Dec 2018 NCTS Seminar on Algebraic Geometry, National Taiwan University
- Oct 2018 KCL/UCL Junior Geometry Seminar, University College London
- Aug 2018 Workshop on Degenerate Contributions to Enumerative Invariants, Imperial College London
- May 2018 Algebraic Geometry Seminar, Oxford University
- May 2018 MAGIC Seminar, Imperial College London
- May 2018 Front Range Algebraic Geometry Seminar, Colorado State University
- Apr 2018 Séminaire de Géométrie Algébrique, Université d'Angers
- Mar 2018 Structures in Enumerative Geometry (Poster Session), MSRI Berkeley
- Feb 2018 London Geometry and Topology Seminar, Imperial College London
- Feb 2018 Warwick Algebraic Geometry Seminar, University of Warwick
- Nov 2017 Edinburgh Geometry Seminar (EDGE), University of Edinburgh
- Nov 2017 Mirror Symmetry Days, University of Kent
- Feb 2016 Symplectic Cut Seminar, King's College London
- Oct 2015 Symplectic Cut Seminar, King's College London
- Jan 2015 Junior Geometry Seminar, Imperial College London
- Nov 2013 Undergraduate Mathematics Colloquium, Imperial College London

Prizes

- Oct 2014 Governors' MSci Prize in Mathematics (£250)
Awarded by Imperial College London to the highest-ranked MSci student in the final examinations
- Oct 2014 Lance Ware Mensa Award (£300)
Awarded by Imperial College London for academic excellence to a student of mathematics, biochemistry or medicine

- Oct 2013 Gloucester Research Prize (£100)
Awarded by Imperial College London for exceptional third-year exam results
- Oct 2012 Gloucester Research Prize (£100)
Awarded by Imperial College London for exceptional second-year exam results
- Nov 2008 Senior UK Mathematics Challenge
Gold Award and advancement to Round 1 of BMO

Expository Articles

- Apr 2015 *Virtual Fundamental Classes in Gromov–Witten Theory*
Supervisor: Dr Cristina Manolache
- Jun 2014 *Homotopy Groups of the Spheres*
Supervisor: Professor Richard Thomas

Other Research Experience

- Jun–Sep 2013 Research Assistant, Fanosearch Group, Imperial College London
Supervisors: Professor Tom Coates and Dr Alexander Kasprzyk

Membership of Professional Associations

London Mathematical Society (LMS)