Curriculum Vitae

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Name: Eoin Mackall
Citizenship: United States

Employment

Jul 2024–	Visiting Assistant Professor University of California, Santa Cruz
Jul 2023–Jun 2024	Lecturer University of California, San Diego
Aug 2020–Jul 2023	Sergei Novikov Postdoctoral Fellow University of Maryland, College Park
Jan 2020–Aug 2020	Postdoctoral Fellow University of Victoria, Victoria

Education

2015–2019	Ph.D. in Mathematics University of Alberta, Edmonton Advisor: Nikita Karpenko
2013–2015	B.A. in Mathematics California State University, Chico

Awards

2019	Anton Alexander Cseuz Gold Medal in Mathematics
2019	Faculty of Science Dissertation Award
2017	University of Alberta Graduate Student Teaching Award
2014	Undergraduate Award for Research and Creativity Grant

Publications/Preprints

2024	Elliptic curves and their principal homogeneous spaces: splitting Severi–Brauer varieties coauthored with Nick Rekuski *Submitted* https://www.eoinmackall.com/s/E_Torsors_in_Severi_Brauer_Varieties.pdf
2023	On the algebraizability of formal deformations in K-cohomology *Submitted* https://www.eoinmackall.com/s/representable_short.pdf
2023	The period and index of a generic geometrically elliptic normal curve *Submitted*

https://www.eoinmackall.com/s/gengeom.pdf

2022   Pro-representability of K^M-cohomology in weight 3 generalizing a result of Bloch
        Annals of K-theory
        https://www.eoinmackall.com/s/milnor_rev.pdf

2022   On the Chow groups of a biquaternion Severi–Brauer variety
        Pacific Journal of Mathematics
        https://www.eoinmackall.com/s/biquaternion.pdf

2021   Algebraic connective K-theory of a Severi-Brauer variety with prescribed
        reduced behavior
        Documenta Mathematica
        https://www.eoinmackall.com/s/revconnectivek2.pdf

2020   A universal coefficient theorem with applications to torsion in Chow groups of
        Severi–Brauer varieties
        New York Journal of Mathematics
        https://www.eoinmackall.com/s/tauR.pdf

2020   Codimension 2 cycles on Severi-Brauer varieties and decomposability
        Manuscripta Mathematica
        https://www.eoinmackall.com/s/revcodimension2.pdf

2020 $\mathbb{A}^1$-homotopy equivalences and a theorem of Whitehead
        Homology, Homotopy and Applications
        https://www.eoinmackall.com/s/revwhiteheadthm.pdf

2020   Universal additive Chern classes and a GRR-type theorem
        Journal of Algebra
        https://www.eoinmackall.com/s/revBthy2.pdf

2019   Functorality of the gamma filtration and computations for some twisted flag
        varieties
        Annals of K-theory
        https://www.eoinmackall.com/s/revfiltrations.pdf

2019   On the K-theory coniveau epimorphism for products of Severi-Brauer varieties
        coauthored with Nikita Karpenko
        Annals of K-theory
        https://www.eoinmackall.com/s/revChern-subring.pdf

2019   The Coniveau Filtration on K_1 for Some Severi–Brauer Varieties.
        Canadian Mathematical Bulletin
        https://www.eoinmackall.com/s/revChowindexp2.pdf

2018   Six variations on a theme: almost planar graphs
        coauthored with M. Lipton, T. Mattman, M. Pierce,
        S. Robinson, J. Thomas, I. Weinschelbaum.
        Involve

https://arxiv.org/pdf/1608.01973.pdf

Books

2022   Algebraic K-theory in Algebraic Geometry (*in progress*)
       https://www.eoinmackall.com/k-book

Short Notes

2021   Rational equivalence of curves on a Severi–Brauer variety
       https://www.eoinmackall.com/s/Suslin2.pdf
2020   The arithmetic genus of a complete intersection curve
       https://www.eoinmackall.com/s/arigen.pdf
2019   The genera of smooth curves in a projective variety
       https://www.eoinmackall.com/s/possiblegenera.pdf
2019   A degree-bound on the genus of a projective curve
       https://www.eoinmackall.com/s/deggen2.pdf

Mentoring

SP22   Reading course in Commutative Algebra (with 1 undergraduate)
SU22   Informal reading group in Algebraic Geometry (with 2 undergraduates)

Talks Given/Planned

2024   Quadratic pairs on Azumaya algebras and canonical extension classes
       Michigan Algebraic Geometry Seminar
       University of Michigan - Ann arbor
2024   Deformations of Azumaya algebras with involution
       AMS Sectional on Ramification in Algebraic and Arithmetic Geometry
       University of Wisconsin-Milwaukee
2023   Formal representability of Chow groups using Milnor K-theory
       CMS Summer Meeting
       University of Ottawa
2023   Generic geometric elliptic normal curves on Severi–Brauer varieties
       AMS Sectional on Brauer groups in Algebraic Geometry and Arithmetic
       University of Cincinnati
2023   Naive $\mathbb{A}^1$-homotopy equivalences and theorems of Whitehead and Zariski
       JMM Special Session on Homotopy theory: connections and applications
       Boston
2022   Naive $\mathbb{A}^1$-homotopy equivalences and theorems of Whitehead and Zariski
       Wayne State Topology Seminar
       Wayne State University
2022   Chow groups of biquaternion Severi–Brauer threefolds
       Wayne State Mathematics Colloquium
       Wayne State University
2022   Naive $\mathbb{A}^1$-homotopy equivalences and theorems of Whitehead and Zariski
       MIT topology seminar
       Massachusetts Institute of Technology
2022   Pro-representability of some K-cohomology groups
       The Euler International Mathematical Institute

Online (https://youtu.be/q93CEszYbCo)
2021 Chow groups of Severi–Brauer varieties and biquaternion algebras
Michigan State University Algebra Seminar
Online
2021 Finding noncyclic torsion in $\mathrm{CH}^2(X)$ when X is a Severi–Brauer variety
Algebra and Geometry of Homogeneous Spaces Online Workshop
Online
2021 Curves on Severi–Brauer varieties and nontriviality of reduced
Whitehead groups
AMS Special Session on Galois Cohomology in Arithmetic Geometry, II
Online
2019 Cycles of large codimension on generic twisted flag varieties of type A
The Forms, Flags, Graphs and Beyond Workshop
University of Ottawa
2018 On torsion in the Chow groups of some Severi-Brauer varieties
The 13th Brauer Group Conference
Pingree Park Colorado State University

Professional Development

2024–2025	Member in EDGE-DS Interdisciplinary Fellow in Data Science
2023	Member in MRC on Derived Categories, Arithmetic and Geometry

Other

Referee for	Journal of Algebra
	Épijournal de Géométrie Algébrique
	Proceedings of the Amitsur Centennial Symposium
Organizer for	Algebra and Number Theory Seminar at UC Santa Cruz (FA24-SP25)
	Student Algebra Seminar at the University of Alberta (WI17-FA18)