

Résumé/CV

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<https://eoinmackall.github.io/>

Name: Eoin Mackall
Citizenship: United States

Programming experience: Python
(SageMath, Networkx, Qiskit)

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 with a minor in Chemistry
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

2025 **On deformations of Azumaya algebras with quadratic pair**
coauthored with Cameron Ruether
Preprint

2024 **Elliptic curves and their principal homogeneous spaces: splitting Severi–Brauer varieties**
coauthored with Nick Rekuski
Submitted

2023 **On the algebraizability of formal deformations in K -cohomology**
Submitted

2023 **The period and index of a generic geometrically elliptic normal curve**
Submitted

2022 **Pro-representability of K^M -cohomology in weight 3 generalizing a result of Bloch**

- Annals of K-theory*
- 2022 **On the Chow groups of a biquaternion Severi–Brauer variety**
Pacific Journal of Mathematics
- 2021 **Algebraic connective K -theory of a Severi–Brauer variety with prescribed reduced behavior**
Documenta Mathematica
- 2020 **A universal coefficient theorem with applications to torsion in Chow groups of Severi–Brauer varieties**
New York Journal of Mathematics
- 2020 **Codimension 2 cycles on Severi–Brauer varieties and decomposability**
Manuscripta Mathematica
- 2020 **\mathbb{A}^1 -homotopy equivalences and a theorem of Whitehead**
Homology, Homotopy and Applications
- 2020 **Universal additive Chern classes and a GRR-type theorem**
Journal of Algebra
- 2019 **Functoriality of the gamma filtration and computations for some twisted flag varieties**
Annals of K-theory
- 2019 **On the K -theory coniveau epimorphism for products of Severi–Brauer varieties**
coauthored with Nikita Karpenko
Annals of K-theory
- 2019 **The Coniveau Filtration on K_1 for Some Severi–Brauer Varieties**
Canadian Mathematical Bulletin
- 2018 **Six variations on a theme: almost planar graphs**
coauthored with M. Lipton, T. Mattman, M. Pierce,
S. Robinson, J. Thomas, I. Weinselbaum.
Involve

Books

- 2022 Algebraic K -theory in Algebraic Geometry (*in progress*)

Invited talks

- 2025 TBD
Clay Mathematics Institute: Arithmetic, K -theory, and Algebraic Cycles
Ohio State University
- 2025 A quadratic pair with obstructed deformations
UC Davis Algebraic Geometry and Number Theory Seminar
UC Davis
- 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

Certificates

- 2024 IBM Basics of Quantum Information

Other

- Referee for Journal of Algebra
Épjournal 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)