Jesús Emilio Domínguez Russell

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Education

University of Maryland, College Park — College Park, MD, USA
Ph.D. in Mathematics – Advisor: Amin Gholampour. — August 2021–Present

Universidad Autónoma de Sinaloa — Culiacán, Sinaloa, México
B.Sc. in Mathematics. — August 2016–July 2021

Publications/Preprints

[1] E. Dominguez and A. Gholampour, *Virtual cycles of 3-term complexes and the hilbert schemes of surfaces*, 2026. arXiv: 2606.29542 [math.AG].

[2] O. Arizmendi and E. Dominguez, "Barabasi–albert trees are hypoenergetic", *Boletín de la Sociedad Matemática Mexicana*, vol. 28, no. 3, p. 72, Sep. 2022, ISSN: 2296-4495.

[3] J. E. Domínguez and C. Segovia, "Extending free actions of finite groups on surfaces", *Topology and its Applications*, vol. 305, p. 107 898, 2022, ISSN: 0166-8641.

Teaching

Instructor for the University of Maryland

- **Calculus I (MATH140)** — Summer 2024
- **Calculus I (MATH140)** — Summer 2023

Teaching Assistant for the University of Maryland

- **Introduction to Linear Algebra (MATH240)** — Fall 2026
- **Elementary Calculus I (MATH120)** — Fall 2025, Spring 2023, Fall 2022, Spring 2022
- **Calculus II (MATH141)** — Fall 2025
- **Calculus I (MATH140)** — Spring 2024, Fall 2023
- **Precalculus I (MATH115)** — Fall 2021

Grader for the University of Maryland

- **Applications of Linear Algebra (MATH401)** — Summer 2026
- **Advanced Calculus II (MATH411)** — Fall 2024

Seminar Talks

- **Virtual cycles of 3-term complexes** — October 2026
  Algebraic geometry seminar, at the Ohio State University
- **Virtual cycles of 3-term complexes** — October 2026
  Algebraic geometry seminar, at the University of Maryland

Student Seminar Talks

- **Relative GW theory** — March 2026
  RIT on Algebraic Geometry – Logarithmic Geometry, at University of Maryland
- **Virtual Classes and GW theory** — February 2026
  RIT on Algebraic Geometry – Logarithmic Geometry, at University of Maryland
- **Moduli of vector bundles and Brill-Noether Theory** — February 2025
  RIT on Algebraic Geometry – K3 Surfaces, at University of Maryland

- **Intersections in Algebraic Geometry** May 2024
  Student Seminar, at Universidad Autónoma de Sinaloa, Mexico
- **The Inverse Galois Problem** April 2024
  2024 Seymour Goldberg and Monroe Martin Spotlight Talks, at University of Maryland

Mentoring

Counselor at the Brin Mathematics Research Center

- **Brin Maryland Mathematics Camp** Summer 2026
  Rotations in the Quantum world, Fairness Algorithms, Machine Learning and Cryptography
- **Brin Maryland Mathematics Camp** Summer 2025
  Ramsey Theory, Hyperbolic Geometry, Exotic Sets & Functions and Number Theory
- **Brin Maryland Mathematics Camp** Summer 2024
  Knot Theory and Mathematical Biology

Mentor for Undergraduate Directed Reading Program at UMD

- **Space-filling curves** Fall 2025
- **Modular forms and their applications** Spring 2023

Coach for Sinaloa state team in the Mexican Math Olympiads (2016-2021)

Awards

- **Herbert A. Hauptman Fellow** 2025, 2026
- **Dean's Fellowship, University of Maryland** 2021–2023