Eamon Quinlan-Gallego

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Employment

2022– **NSF postdoc**, *University of Utah*, Salt Lake City, UT, USA

2021–2022 **Wylie Assistant Professor**, *University of Utah*, Salt Lake City, UT, USA

Education

2015–2021 **Ph.D. in Mathematics**, *University of Michigan*, Ann Arbor, MI, USA
- Advised by Prof. Karen Smith.
- 10/2018–12/2019 Extramural study at the University of Tokyo, Japan, advised by Prof. Shunsuke Takagi.

2011–2015 **B. Sc. in Mathematics**, *Univeristy of Glasgow*, Glasgow, Scotland
- With Honours of the First Class.
- 08/2012–05/2013 Study abroad at the National University of Singapore.

Preprints and Publications

2025 Plus-pure thresholds of some cusp-like singularities in mixed characteristic.
- With H. Cai, S. Pande, K. Schwede, and K. Tucker.
- arXiv:2501.07528.

2024 Bernstein-Sato theory modulo p^m.
- With T. Bitoun.
- arXiv:2401.07082.

2024 Flat morphisms with regular fibers do not preserve F-rationality.
- With A. Simpson and A. Singh.
- Rev. Mat. Iberoam.

2024 A formalism of F-modules for rings with complete local FFRT.
- International Mathematics Research Notices.

2023 Bernstein-Sato theory for singular rings in positive characteristic.
- With J. Jeffries and L. Núñez-Betancourt.
- Transactions of the American Mathematical Society.

2021 Symmetry on rings of differential operators.
- Journal of Algebra.

2020 Bernstein-Sato theory for arbitrary ideals in positive characteristic.
- Transactions of the American Mathematical Society.

2020 Bernstein-Sato roots for monomial ideals in positive characteristic.
- Nagoya Mathematical Journal.

Scholarships and Awards

2025 Collaborate@ICERM.
- Offers a team researchers the opportunity to spend five days at the institute.

2024	Summer Collaborators Program, Institute for Advanced Study.
	○ Invites a group of collaborators to IAS for 2-3 weeks during the summer.
2023	Tucker Award, University of Utah.
	○ Recognizes exceptional research by a postdoc in the Mathematics Department.
2022–2025	NSF: Mathematical Sciences Postdoctoral Research Fellowship.
2018	Ito Foundation for International Education Exchange Scholarship.
	○ Provides funding for up to two years of study in Japan.
2015	Third Prize at the International Mathematics Competition for University Students.
2014	Ede and Ravenscroft Prize, University of Glasgow.
	○ Awarded annually to the most distinguished Science graduate of the year.
2013	Cunninghame Medal and Prize, University of Glasgow.
	○ Awarded annually to the most distinguished student in the Advanced Honours class of Mathematics at the University of Glasgow.
2011	Honorable Mention at the International Physics Olympiad.
2010	Gold Medal at the Spanish Physics Olympiad.

Service

2024	Co-ogranized the Commutative Algebra Seminar at the University of Utah.
2023	Co-organized a hybrid seminar on simplicial commutative algebra.
2023	Organized a hybrid seminar on derived rings of differential operators.
2022	Organized a reading seminar on the Bhatt and Lurie's Riemann-Hilbert correspondence in positive characteristic.
2020, 2021	Co-organized the online Differential Operators in Commutative Algebra Seminar (DOCAS): `https://sites.google.com/umich.edu/docas`

Invited Talks

2024	AMS Sectional Meeting, Albany, NY.
	○ Special Session on Singularities in Commutative Algebra.
2024	Institute of Mathematics - Johannes Gutenberg-Universität Mainz.
2024	Seminari de Geometria Algebraica de Barcelona.
2024	Algebra Seminar, Basque Center for Applied Mathematics.
2024	Algebra Seminar, Universidad de Sevilla.
2024	SLMath, Seminar Series on FFRT.
2023	University of Illinois at Chicago, Algebraic Geometry Seminar.
2023	AMS Sectional Meeting, Omaha, NE, USA.
	○ Special Session on Commutative Algebra, Differential Operators, and Singularities.
2023	BCAM, Bilbao, Spain.
	○ Meeting of the Spanish Network for Algebraic Geometry and Singularity Theory.
2022	Commutative Algebra Seminar at University of Minnesota.
2021	Mathematical Congress of the Americas.
	○ Session: Differential Operators in Algebraic Geometry and Commutative Algebra.
2021	Singularity Seminar of Nihon University.

2021	Commutative Algebra Seminar at University of Illinois at Chicago.
2021	Joint Mathematics Meetings.
	○ Special Session on Commutative Algebra in Positive Characteristic.
2020	Commutative Algebra Seminar at Purdue University.
2020	University of Arkansas Algebra Seminar.
2019	41$^{\text{st}}$ Japan Symposium on Commutative Algebra.
2019	Commutative Algebra and Algebraic Geometry Seminar, CIMAT.
2019	AMS Sectional Meeting, Madison, WI, USA
	○ Special Session on Homological and Char. $p > 0$ Methods in Commutative Algebra.
2019	Algebra Seminar, Universidad Autónoma de Madrid.
2019	RIMS x OIST Joint Workshop: "On the problem of resolution of singularities and its vicinity", Okinawa, Japan.
2018	Singularity Seminar of Nihon University

Teaching

As instructor of record:

University of Utah

F2024	MATH3160	Applied Complex Variables.
F2023	MATH1220	Calculus II.
W2022	MATH3160	Applied Complex Variables.
F2021	MATH1220	Calculus II.

University of Michigan

F2020	MATH116	Calculus II.
W2020	MATH116	Calculus II.
W2017	MATH115	Calculus I.
F2016	MATH105	Precalculus.

Other teaching experiences:

10/2024	Methods in Mixed Characteristic Geometry.
	○ Johannes Gutenberg-Universität, Mainz, Germany.
	○ Teaching assistant.
2024-2025	Supervision of senior thesis.
	○ Abel Doñate Muñoz.
	○ *Strength of Bernstein-Sato roots of cusp singularities.* (Preliminary title).
01/2024	RGAS School on Singularities.
	○ Instructor for the course "Test ideals and b-functions in positive characteristic."
	○ School that brings together early career mathematicians and experts in singularities.
07/2023	PRAGMATIC.
	○ University of Catania, Italy.
	○ Teaching assistant.
	○ One week of lectures and two weeks of problem solving for stimulating research in algebraic geometry and commutative algebra among young people.

06/2023 SLMATH CMND Summer School on Commutative Algebra.
- University of Notre Dame, Indiana.
- Teaching assistant for Differential Operators mini-course.
- Two-week summer school on some topics in commutative algebra, covered across three mini-courses and problem sessions.

2022-2023 Supervision of senior thesis.
- Pedro López Sancha.
- *Bernstein-Sato theory for determinantal ideals in positive characteristic.*
- Emmy Noether prize from Societat Catalana de Matemàtiques.

06/2022 Summer High School Program.
- University of Utah.
- Director.
- An intensive three-week program for motivated high school students.

08/2018 Course on Rings of Differential Operators.
- University of Michigan.
- A one-week introductory course on rings of differential operators aimed at graduate students and advanced undergrads.

07/2018 Michigan Math and Science Scholars, Fibonacci Numbers.
- University of Michigan
- Graduate Student Instructor under Prof. Melvin Hochster.
- A two-week intensive course to introduce highly motivated high-school students to number theory, combinatorics and game theory via the study of Fibonacci numbers.

07/2017 Michigan Math and Science Scholars, Fibonacci Numbers.

Languages

- English —— Native level.
- Spanish —— Mother tongue.
- Japanese —— Basic level.