

Tom Gannon
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EDUCATION	<p>University of Texas at Austin, Austin, TX 2016 - 2022</p> <ul style="list-style-type: none"> • Ph.D. - Mathematics • Advisor: Sam Raskin • Thesis: <i>Categorical Representation Theory and the Coarse Quotient</i> <p>Michigan State University, East Lansing, MI 2012 - 2016</p> <ul style="list-style-type: none"> • B.A. - Dual Major in Advanced Mathematics and Accounting • Computer Science Minor
PUBLICATIONS	<ul style="list-style-type: none"> • Functoriality of Coulomb branches (with B. Webster) - arXiv. • Quantization of the universal centralizer and central D-modules (with V. Ginzburg) - arXiv. • The cotangent bundle of G/U_P and Kostant-Whittaker descent <i>International Mathematics Research Notices</i> - 2025. • Differential operators on the base affine space of SL_n and quantized Coulomb branches (with H. Williams) - Submitted. • Proof of the Ginzburg-Kazhdan conjecture <i>Advances in Mathematics</i> - 2024. • Classification of nondegenerate G-categories - Submitted. • The universal category \mathcal{O} and the Gelfand-Graev action - Submitted. • The coarse quotient for affine Weyl groups and pseudo-reflection groups - Submitted. • New results about semipositive matrices (with J. Dorsey, C. Johnson, and M. Turnansky) <i>Czechoslovak Mathematical Journal</i> - 2016. • Linear preservers of semipositive matrices (with J. Dorsey, N. Jacobson, C. Johnson, and M. Turnansky) <i>Journal of Linear and Multilinear Algebra</i> - 2016.
RESEARCH SEMINARS	<ul style="list-style-type: none"> • Northeastern Workshop on Representation Theory With an Emphasis on Categorification and Symplectic Duality Summer 2025* • UC Riverside Colloquium Spring 2025 • Wake Forest Colloquium Spring 2025 • Notre Dame Colloquium Fall 2024 • Perimeter Institute Mathematical Physics Fall 2024 • University of Chicago Representation Theory Fall 2024 • MIT Lie Groups Fall 2024 • UC Riverside Lie Theory Fall 2024 • University of Georgia Algebra Fall 2024 • LSU Mathematical Physics and Representation Theory Fall 2024 • Georgia Southern Poisson Geometry, Diffeology and Singular Spaces Fall 2024 • University of New Mexico Algebra and Geometry Fall 2024 • UNC Geometric Methods in Representation Theory Fall 2024 • Utah State Department Colloquium Fall 2024 • UC Riverside Special Session on Non-commutative Birational Geometry, Cluster Structures and Canonical Bases Fall 2024 • UC Riverside Special Session on Non-commutative Algebras in Representation Theory and Topology Fall 2024 • UC Riverside Special Session in Geometric and Categorical Representation Theory Fall 2024 • Caltech Algebra Spring 2024 • Yale Geometry, Symmetry and Physics Spring 2024 • Northwestern 'Gone Fishing' Poisson Geometry Conference Spring 2024 • USC Algebra Spring 2024 • Northeastern Geometry, Physics, and Representation Theory Spring 2024 • Perimeter Institute Mathematical Physics Spring 2024 • UW Milwaukee Special Session on Geometric Methods in Representation Theory Spring 2024 • Southeastern Lie Theory Workshop Series Spring 2024 • SFSU Special Session on Commutative and Noncommutative Algebra Spring 2024 • SFSU Special Session on Representations of Lie Algebras and Lie Superalgebras Spring 2024 • SFSU Special Session on Geometry, Integrability, Symmetry and Physics Spring 2024 • CMS Special Session on Cluster Algebras in Representation Theory Fall 2023

	<ul style="list-style-type: none"> • SUNY Buffalo Special Session on Representation Theory and Flag Varieties • UC Berkeley Representation Theory and Tensor Categories • UCLA Algebra • University of New Mexico Algebra and Geometry • USC Topology • UC Riverside Lie Theory • MIT Lie Groups • Oberwolfach Arbeitsgemeinschaften • Boston College Algebraic Geometry • Notre Dame Algebraic Geometry • Montana Mathematics • Toronto Geometric Representation Theory • Academia Sinica Algebraic Geometry • Texas A&M Algebraic Geometry 	<p>Fall 2023 Spring 2023 Spring 2023 Spring 2023 Spring 2023 Spring 2023 Spring 2022 Spring 2022 Spring 2022 Spring 2022 Spring 2022 Fall 2021 Fall 2021 Fall 2020</p>
OUTREACH	<p>UCLA Math Circle - Deputy Director</p> <ul style="list-style-type: none"> • Co-director of program for over 400 students in grades K-12 designed to teach accessible introductory topics in theoretical math • Co-developed new courses for advanced high school students in probability, game theory, and basics of algebraic geometry • Regularly taught Sunday classes to students in grades K-12 • Administered American Mathematics Competition, Math Kangaroo, AIME, Bay Area Math Olympiad, USAMO 	<p>Fall 2023 - Present</p>
	<p>Sunday Morning Math Group - Coordinator</p> <ul style="list-style-type: none"> • Coordinated logistics related to mathematics outreach program • Lead marketing campaign to increase awareness of biweekly outreach event • Boosted attendance from 20 students per session to 100 students per session • Received 'Featured Event' status on popular Austin website Do512 • Advised mathematics faculty and graduate students on teaching young students • Administered American Mathematics Competition 	<p>Fall 2018 - Fall 2020</p>
	<p>UTeach</p> <ul style="list-style-type: none"> • Co-organized math department efforts to pair graduate student volunteers with local schools in need of additional assistance during COVID-19 pandemic • Acted as supplemental instructor for an AP Calculus class at Lehman High School • Organized exhibit for Lehman STEM Fair 	<p>Summer 2020 - Summer 2021</p>
	<p>Outreach Math Talks</p> <ul style="list-style-type: none"> • Regular speaker at UT Undergraduate Math Club, Sunday Morning Math Group and other locations (see below for full talk list) • Spoke on panels regarding topics such as applying to graduate school and REUs 	<p>Fall 2016 - Present</p>
	<p>Blogging</p> <ul style="list-style-type: none"> • How to Run a Math Group - <i>Notices of the AMS</i> • What Is... A Scheme? - <i>Notices of the AMS</i> • Contributor to <i>AMS Blogs</i> 	<p>Fall 2021 Fall 2017 Spring 2017 - Fall 2018</p>
HONORS AND AWARDS	<ul style="list-style-type: none"> • AMS-Simons Travel Grant • Frank Gerth III Outstanding Dissertation Award • Graduate School Dissertation Writing Fellowship • Oberwolfach Junior Fellow • University of Texas at Austin Graduate School Fellowship • College of Natural Science Fellowship • College of Natural Science Fellowship • Frank Gerth III Teaching Excellence Award • RTG Fellowship • Frank Gerth III Graduate Course Performance Excellence Award • Herzog Prize Winner • Herbert T. Graham Scholarship Recipient • Mathematics Endowed Enrichment Scholarship 	<p>Fall 2024 - 2026 Spring 2022 Spring 2022 Spring 2022 Summer 2021 Summer 2020 Summer 2019 Spring 2019 Summer 2018 Fall 2016 Fall 2015 Spring 2015 Spring 2014</p>
TEACHING EXPERIENCE	<ul style="list-style-type: none"> • Linear Algebra and Applications (Instructor) • Differential and Integral Calculus (Instructor) • Linear Algebra and Applications (Course Coordinator) • Linear Algebra II (Instructor) • Linear Algebra and Applications (Instructor) • Differential and Integral Calculus (Course Coordinator) 	<p>Fall 2024 Fall 2023 Spring 2023 Winter 2023 Fall 2022 Fall 2022</p>

	• Abstract Algebra I (Teaching Assistant)	Fall 2021
	• Abstract Algebra II (Teaching Assistant)	Spring 2021
	• Differential and Integral Calculus (Supplemental Instructor)	Fall 2018
	• Abstract Algebra II (Teaching Assistant)	Spring 2018
	• Integral Calculus (Teaching Assistant)	Fall 2017
	• Integral Calculus (Teaching Assistant)	Fall 2016
	• Honors Linear Algebra (Teaching Assistant)	Fall 2015
	• Honors Linear Algebra (Teaching Assistant)	Spring 2015
	• Honors Linear Algebra (Teaching Assistant)	Fall 2014
	• Finite Mathematics (Teaching Assistant)	Spring 2014
	• Finite Mathematics (Teaching Assistant)	Fall 2013
SERVICE	Organizer - AMS Sectional Special Session	Fall 2024
	• <i>Special Session in Geometric and Categorical Representation Theory</i> - Riverside	
	Organizer - Los Angeles Workshop on Representations and Geometry (LAWRGe)	Summer 2024
	• <i>Relative Langlands Duality</i>	
	Teaching Assistant - U of O Workshop on Algebra and Representation Theory	Summer 2023
	• <i>Categorified Coulomb Branches</i>	
	Reading Course Instructor	Spring 2023
	• <i>Geometry and Modular Representation Theory of Algebraic Groups</i>	
	Meet a Mathematician	Fall 2021
	• Visited honors calculus class to answer questions about higher mathematics and the process of obtaining a Ph.D.	
	Referee Work	Fall 2023, Fall 2021
	• <i>Representation Theory</i> (AMS)	
	• <i>Forum of Mathematics, Sigma</i>	
	Supplemental Instructor Teaching Assistant	Fall 2018
	• Participated in weekly collaboration with other instructors to better incorporate more effective and inclusive teaching strategies in calculus. This included reading current pedagogical research and many teaching observations.	
	Mini Course Instructor	Summer 2017 - Summer 2021
	• Ran week long summer courses (see below for full list)	
	Directed Reading Program	Fall 2016 - Spring 2022
	• Mentored undergraduate students in the study of Algebraic Number Theory, Galois Theory, and Graph Theory	
	Mathematics Learning Center	Spring 2013 - Summer 2016
	• Supervised center which provided free mathematics tutoring to undergraduates	
	• Co-founder of The Honors Room, a specialized help center which focuses on students in proof-based courses	
	Department External Review	Fall 2020
	• Participated in external review of department	
OUTREACH TALKS	• What Is College Math All About?	UTeach Outreach Summer Camp - Summer 2022
	• The Birthday Problem!	SMMG, Online - Spring 2022
	• A Proof π Is Irrational	UT Math Club - Spring 2022
	• Sunday Morning Math Games! (6 Videos)	SMMG, Online - Fall 2020
	• Arrow's Impossibility Theorem	UT Math Club, Online - Fall 2020
	• What is Calculus About?	SMMG, Online - Spring 2020
	• Diagonals!	LASA High School Math Club - Spring 2020
	• But What Are the Complex Numbers, Anyway?	Texas A&M Math Circle - Fall 2019
	• Ramsey Theory	SMMG - Fall 2019
	• How to Make Friends with Graph Theory	LASA High School Math Club - Fall 2019
	• The Mathematics of Voting	UT Math Club - Fall 2018
	• Everything You Ever Wanted to Know About Infinity	SMMG - Fall 2018
	• How to Make Friends with Graph Theory	Texas A&M Math Circle - Spring 2018
	• How to Make Friends with Graph Theory	SMMG - Fall 2017
	• Mathematical Facts to Impress Non-Mathematical People	UT Math Club - Spring 2017
	• Proofs Are The Best	#NotSoMath (Bar Show) - Spring 2017