Jon Erickson

Education

2021–Now **Ph.D., Mathematics (In Progress)**, *University of California, Davis*, Davis, CA

2018–2021 **M.S., Mathematics**, *University of North Texas*, Denton, TX

2012–2016 **B.A., Mathematics and Computer Science**, *Rice University*, Houston, TX

Work and Teaching Experience

2023-Now **Graduate Student Researcher**, *University of California, Davis*, Davis, CA
Funded by NDSEG fellowship to pursue research related to generalized hyperplane complements.

2021–2023 **Teaching Assistant**, *University of California, Davis*, Davis, CA
Served as a teaching assistant for STEM calculus, linear algebra, and undergraduate abstract algebra.

2022 **Graduate Student Researcher**, *University of California, Davis*, Davis, CA
Funded during the summer to pursue research related to Thrall's Problem, an open question in combinatorics and Lie theory.

2020–2021 **Teaching Fellow**, *University of North Texas*, Denton, TX
Served as instructor of record for UGMT 1200, a developmental mathematics course, and for Precalculus.

2020–2021 **Faculty Member**, *Mid-Cities Math Circle*, Arlington, TX
Helped to run math circle meetings for advanced middle and high school students. Led problem-solving sessions on topics such as modular arithmetic and invariants.

2016–2020 **Mathematics Teacher**, *Cistercian Preparatory School*, Irving, TX
Worked as a Mathematics Teacher at Cistercian Preparatory School, which has an advanced all-honors mathematics curriculum. Taught 8th Grade Algebra I, and 6th Grade Pre-Algebra. Served as Math Club Coach.

2014–2016 **Grader**, *Rice University Math Department*, Houston, TX
Worked as a Grader for Honors Linear Algebra, Honors Multivariate Calculus, and Real Analysis.

Grants, Awards, and Honors

2023-2026 **NDSEG Fellowship**, *Office of Naval Research*
Awarded highly competitive fellowship on the basis of academic ability. This award supports graduate studies in areas relevant to the interests of the Department of Defense, and provides a $40,800 annual stipend, tuition and fees, health insurance benefit, and $5,000 travel stipend for three years.

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2022 **AMS-NSF-Simons-ICM Early-Career Travel Grant**, *American Mathematical Society*
Awarded early-career grant to participate in the 2022 International Congress of Mathematicians and its satellite conferences. Unfortunately, ICM 2022 and the grant program were cancelled due to geopolitical instability.

2020 **Academic Excellence Award**, *University of North Texas*, Denton, TX
Awarded each year by the UNT Math Department to one graduate student in recognition of outstanding academic progress.

2020 **John W. Neuberger Mathematics Scholarship**, *University of North Texas*, Denton, TX
Awarded each year by the UNT Math Department to one graduate student to support their pursuit of advanced research.

Publications

2022 **The Vibrational Modes of Simplicial Molecules**, With Charles H. Conley
The Mathematical Intelligencer, 2022. DOI: 10.1007/s00283-021-10160-z

2016 **Quantum Intermittency for Sparse CMV Matrices with An Application to Quantum Walks on The Half-Line**, With David Damanik, Jake Fillman, Gerhardt Hinkle, and Alan Vu
Journal of Approximation Theory, 208:59-84, August 2016. DOI: 10.1016/j.jat.2016.04.001

Talks and Presentations

April 2021 **Simplicial Molecules**, *Graduate Algebra Symposium*, Remote
Gave thirty-minute talk on research analyzing the vibrational frequencies and modes of n-dimensional molecules formed by point-masses attached to springs.

March 2021 **Simplicial Molecules**, *University of North Texas*, Denton, TX
Gave hour-long talk on the vibrational modes of simplicial molecules.

January 2015 **Undergraduate Poster Session**, *Joint Mathematics Meetings*, San Antonio, TX
Presented research conducted at UT Tyler REU.

July 2014 **Research Presentation**, *University of Texas at Tyler REU*
Gave fifty-minute talk on research to other REU participants and members of the UT Tyler Math Department.

Conferences and Workshops Attended

July 2024 **WARTHOG**, *University of Oregon*
Weeklong workshop at the University of Oregon on coherent-constructible equivalences in local geometric Langlands and representation theory. Mentored by Pramod Achar, Gurbir Dhillon, and Simon Roche.

July 2024 **Introduction to the Theory of Algebraic Curves**, *SLMath/UC Berkeley*
Two week summer school at UC Berkeley on moduli spaces of stable curves, Brill-Noether theory, and extrinsic geometry in projective space. Led by Izzet Coskun, Eric Larson, Hannah Larson, and Isabel Vogt.

October 2023 **Complex Langrangians, Mirror Symmetry, and Quantization**, *Banff International Research Station*
Weeklong workshop at Banff International Research Station on Complex Langrangians, Mirror Symmetry, and Quantization.

July 2023 **WARTHOG**, *University of Oregon*
Workshop at the University of Oregon on categorified Coulomb branches. Mentored by Sabin Cautis and Harold Williams.

June 2023 **Introduction to Derived Algebraic Geometry**, *SLMath/UC Berkeley*
Two week summer school at University of California, Berkeley on derived algebraic geometry. Mentored by Ben Antieau and Dima Arinkin

June 2023 **FRG Year One Meeting**, *University of Oxford*
Weeklong workshop at University of Oxford on complex Lagrangians, integrable systems, and quantization.

October 2022 **Quantization of Complex Symplectic Varieties**, *MFO*
Weeklong mini-workshop at Mathematisches Forschungsinstitut Oberwolfach. Keynote lecture series given by Jörg Teschner and Tony Pantev. Served as Video Conferencing Assistant.

June 2022 **WARTHOG**, *University of Oregon*
Weeklong workshop on infinite-dimensional methods in commutative algebra. Mentored by Andrew Snowden.

June 2022 **Geometric Structures (re)United**, *University of Illinois, Chicago*
Weeklong school and meeting at University of Illinois, Chicago on Higgs bundles, geometric structures, and character varieties.

June 2022 **LAWRGe**, *University of Southern California*
Week-long workshop on Schubert calculus and quantum integrable systems. Mentored by Allen Knutson and Paul Zinn-Justin.

May 2022 **OPAC**, *University of Minnesota*
Conference on open problems in algebraic combinatorics.