Daniel Wallick

Personal Data

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Education

Current 2020-PRESENT	**The Ohio State University** Theoretical Math PhD Student (expected graduation: 2026) *Advisor:* David Penneys
2016-2020	**Swarthmore College** Class of 2020 *Bachelor of Arts* Honors major: Mathematics; Honors minor: Physics *High Honors*

Honors and Awards

FALL 2023	Ohio State University **Special Graduate Assignment**
SPRING 2022	Ohio State University **Tibor Radó Research Semester**
FALL 2020-SUMMER 2021	Ohio State University **Distinguished University Fellowship**
2020	**Phi Beta Kappa**
2020	Swarthmore College **Lang Award** "Given to a graduating senior in recognition of outstanding academic accomplishment."
2020	Swarthmore College **Heinrich W. Brinkmann Mathematics Prize** "An award given to a small set of graduating seniors who have demonstrated outstanding performance in the field and exemplary service to the Department of Mathematics and Statistics."
2017	**Morris Monsky Prize in Mathematics** for the academic year 2016-2017 "Awarded to a first year student who has demonstrated outstanding mathematical promise and enthusiasm."

Peer Reviewed Journal Articles

2023	An algebraic quantum field theoretic approach to toric code with gapped boundary, *Journal of Mathematical Physics* 64, 102301 DOI: 10.1063/5.0149891, preprint available at arXiv:2212.01952

Preprints

2023 Boundary algebras of the Kitaev Quantum Double model (with Mario Tomba, Shuqi Wei, Brett Hungar, Kyle Kawagoe, Chian Yeong Chuah, and David Penneys)
Available at arXiv:2309.13440

2023 Local topological order and boundary algebras (with Corey Jones, Pieter Naaijkens, and David Penneys)
Available at arXiv:2307.12552

Invited Presentations

OCTOBER 2023 East Coast Operator Algebras Symposium
Talk titled "Boundary Algebras and Kitaev's Quantum Double Model"

MAY 2023 Noncommutative Geometry and Operator Algebras (at Vanderbilt University)
Talk titled "Local Topological Order and Boundary Algebras."

MAY 2023 University of Arizona Mathematical Physics and Probability Seminar
Talk titled "An Algebraic Quantum Field Theoretic Approach to Toric Code with Gapped Boundary."

MARCH 2023 Carleton University Analysis Seminar
Talk titled "An Algebraic Quantum Field Theoretic Approach to Toric Code with Gapped Boundary."

FEBRUARY 2023 ASUERAU C^*-Seminar
Talk titled "An Algebraic Quantum Field Theoretic Approach to Toric Code with Gapped Boundary."

JANUARY 2023 Purdue Operator Algebras Seminar
Talk titled "An Algebraic Quantum Field Theoretic Approach to Toric Code with Gapped Boundary."

JANUARY 2023 JMM Spectra Special Session on Research by LGBTQ+ Mathematicians
Talk titled "An Algebraic Quantum Field Theoretic Approach to Toric Code with Boundary."

DECEMBER 2022 University of Illinois Urbana-Champaign Operator Algebras Learning Seminar
Talk titled "An Algebraic Quantum Field Theoretic Approach to Toric Code with Gapped Boundary."

Academic Service

FALL 2023-PRESENT Member of the **Spectra Profession Committee**

FALL 2022-PRESENT Co-organizer of the **Groundwork in Operator Algebras Lecture Series Student Seminar** (with Aldo Garcia Guinto for FALL 2022-SPRING 2023, with Vincent Villalobos for FALL 2023-PRESENT)

SPRING 2022-PRESENT	President of the **Ohio State University LGBTQ+ in Math Alliance** (Spectra chapter at the Ohio State University starting in FALL 2023)
SPRING 2023	Co-organizer of the **Great Plains Operator Theory Symposium 2023** (with Ovidiu Costin, Rodica Costin, Jan Lang, and David Penneys)

MENTORING

SUMMER 2023 & 2021	Mentor for **Research Experience for Undergraduates** Mentored undergraduate student for the Ohio State University's Research Opportunities in Mathematics for Underrepresented Students program, under the supervision of David Penneys.
FALL 2021-SPRING 2022	Mentor for **Cycle Mentoring Class** at the Ohio State University

TEACHING

SPRING 2023	Teaching Associate for Calculus II (MATH 1152) at the Ohio State University
FALL 2021	Teaching Associate for Calculus I (MATH 1151) at the Ohio State University