

Matthew Lorentz | Curriculum Vitae

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Education

University of Hawai'i at Mānoa

Doctor of Philosophy in Mathematics

PhD Advisor

Honolulu, HI.

2015–2021

Dr. Rufus Willett

University of Washington

Bachelor of Science in Mathematics

Seattle, WA.

2013–2015

Shoreline Community College

Associate in the Arts

Shoreline, WA.

2010–2012

Experience

Michigan State University

Visiting Assistant Professor

East Lansing, MI.

2021–Current

University of Hawai'i at Mānoa

Graduate Teaching Assistant

Teaching Assistant attached to a Professor and Instructor of record.

Honolulu, HI.

2016–2021

Awards

- Postdoctoral Award for Excellence in Teaching. (Bestowed by Mathematics Department, Michigan State University, 2023)
- Graduate Excellence in Teaching. (Bestowed by Mathematics Department, University of Hawai'i at Mānoa, 2019)
- Nomination: Frances Davis Award for Excellence in Undergraduate Teaching for a Graduate Assistant, (Bestowed by University of Hawai'i at Mānoa, 2020)
- Nomination: Frances Davis Award for Excellence in Undergraduate Teaching for a Graduate Assistant, (Bestowed by University of Hawai'i at Mānoa, 2019)

Service

- *Postdoctoral Mentor* (2022 - Present)
Description: First point of contact for questions, concerns, and technical assistance with MSU systems for Visiting Assistant Professors.
- *Professional Development Seminar Series* (2022 - Present)
Description: Co-Designed and Co-organized a series of seminars with topics including: teaching philosophy statements, research statements, building an HTML 5 website, universal classroom design, peer observations, setting up a class in D2L (learning management system), DEI statements, advanced teaching methods, elevator talks, different types of teaching positions, using classroom technology, and writing letters of recommendation.
- *New Hires / Postdoctoral Orientation*
Description: Organized an orientation session for new hires and postdocs with presentations from HR, IT, and support staff.
- *Postdoctoral panel* (9/27/23) Description: Organized a postdoc panel discussion for the MSU Graduate AMS chapter.
- *East Coast Operator Algebras Symposium (ECOAS)* (10/22 - 10/23, 2022)
Description: Conference Co-Organizer

Classes Taught as Instructor of Record

Michigan State University

- Transitions, MTH 299 (proof writing) - Fall 2023
- Matrix Algebra with Computational Applications, MTH 314 - Summer 2023
- Elementary Math for Teachers, MTH 201 - Spring 2023
- Linear Algebra I, MTH 309 - Fall 2023
- Real Analysis I, MTH 320 - Fall 2023
- Matrix Algebra with Computational Applications, MTH 314 - Summer 2022
- Functions and Calculus for Elementary and Middle School Teachers, MTH 305 - Spring 2022
- Calculus I, MTH 132 - Fall 2021

University of Hawai'i at Mānoa

- Calculus II, Math 242 - Spring 2020
- Math for Elementary School Teachers II, Math 112 - Spring 2019
- Calculus I, Math 241 - Fall 2018
- Calculus I, Math 241 - Summer 2018
- Precalculus: Elementary Functions, Math 134 - Spring 2018
- Precalculus and Elements of Calculus, Math 161 - Fall 2017
- Calculus I, Math 241 - Summer 2017
- Precalculus: Elementary Functions, Math 134 - Spring 2017
- Precalculus: Elementary Functions, Math 134 - Fall 2016
- Calculus I, Math 241 - Summer 2016

Non-Credit Instruction

Michigan State University

- *Groundwork for Operator Algebras Lecture Series (GOALS)*
Description: Intensive summer school on C^* -Algebras and von Neumann Algebras which aims to increase participation and retention in the field by persons from traditionally underrepresented groups. Instructor (2021), Teaching Assistant (2020).
 - Co-designed C^* -algebra component with Elizabeth Gillaspy and Kristin Courtney.
 - Co-led seminar on imposter syndrome
 - Student mentor

Classes as Teaching Assistant

University of Hawai'i at Mānoa

- Precalculus: Trigonometry and Analytic Geometry - Spring 2016
- Applied Calculus I - Fall 2019, Fall 2020
- Accelerated Calculus III - Fall 2019

Publications

- *The Hochschild Cohomology of Uniform Roe Algebras*, Proc. Sympos. Pure Math., 105, American Mathematical Society, Providence, RI, 2023, 239-256. ISBN: 978-1-4704-6977-1; [9781470472634]
- *Bounded Derivations on Uniform Roe Algebras* with Rufus Willett, Rocky Mountain J. Math. 50 (2020), no. 5, 1747–1758. doi:10.1216/rmj.2020.50.1747.

Grants

- *East Cost Operator Algebras Symposium (ECOAS)* (2022), Co-PI DMS-2230405 (\$11,010)
- *Young Mathematicians in C^* -Algebras (YMC*A / YW*CA)* (2023), Co-PI DMS-2247448 (\$50,000)
- Research grant with PhD advisor: NSF DMS-1564281 and DMS-1901522
- Research grant: Summer research grant. University of Hawai'i Mathematics Department, 2019

Talks

Invited talks.....

- *The Hochschild Cohomology of Roe Type Algebras*. Functional Analysis Seminar, University of Colorado Boulder (4-13-23)
- *The Hochschild Cohomology of Roe Type Algebras*. Colloquium, University of Montana, (11-21-22)
- *The Hochschild Cohomology of Uniform Roe Algebras*. Cyclic Cohomology at 40: achievements and future prospects, The Fields Institute (09-30-2021)
- *Bounded Derivations and the Hochschild Cohomology of Uniform Roe Algebras*. Washington University St. Louis Analysis Seminar (4-5-21)
- *Bounded Derivations and the Hochschild Cohomology of Uniform Roe Algebras*. ASU C*-Seminar (2-3-21)
- *The Hochschild Cohomology of Uniform Roe Algebras*. Online Noncommutative Geometry Seminar (organized by Xiang Tang and Guoliang Yu) (10-28-20)
- *The Hochschild Cohomology of Uniform Roe Algebras*. University of Wollongong Operator Algebras and Noncommutative Geometry Seminar (7-23-20)
- *Bounded Derivations on (Not Necessarily Nuclear) Uniform Roe Algebras*. C*-Algebras and K-Theory, University of Hawai'i (12-5-19)

Contributed talks.....

- *The Hochschild Cohomology of Roe Type Algebras* Great Plains Operator Theory Symposium (GPOTS), The Ohio State University (5-18-23)
- *Bounded Derivations on (Not Necessarily Nuclear) Uniform Roe Algebras*. The 48th Canadian Operator Symposium (COSy), The Fields Institute (5-25-20)

Local Seminar talks.....

- *Noncommutative Geometry and Uniform Roe Algebras*. Operator Algebra Reading Seminar, Michigan State University (3-27-23)
- *An Introduction to Coarse Geometry*. Operator Algebra Reading Seminar, Michigan State University (2-27-23, 3-13-23)
- *An Introduction to K-Theory*. Operator Algebra Reading Seminar, Michigan State University (11-28-22)
- *The Hochschild Cohomology of Uniform Roe Algebras*. Mathematical Physics and Operator Algebras Seminar, Michigan State University (9-14-21, 9-21-21, 10-12-21)
- *The Gelfand-Naimark-Segal Construction*. AMS Graduate Student Seminar, University of Hawai'i (10-17-2019)
- *Bounded Derivations on Nuclear Uniform Roe Algebras*. Noncommutative Geometry Seminar, University of Hawai'i (8-30-19, 9-6-19, 9-20-19)
- *A Generalized Dimension Function for K_0 of C*-algebras*. Noncommutative Geometry Seminar, University of Hawai'i (11-21-18)
- *G-C*-algebras*. Noncommutative Geometry Seminar, University of Hawai'i (9-19-18)

Teaching References

- Dr. Tsvetanka Sendova, Co-Coordinator of Center for Instructional Mentoring - Department of Mathematics Michigan State University
- Dr. Andrew Krause, Co-Coordinator of Center for Instructional Mentoring - Department of Mathematics Michigan State University
- Dr. Rufus Willett, Professor, Chair, University of Hawai'i at Mānoa
- Dr. Elizabeth Gillaspy, Associate Professor, University of Montana
- Dr. Ruth Haas, Professor, Emeritus, University of Hawai'i at Mānoa
- Dr. Monique Chyba, Professor, University of Hawai'i at Mānoa