

Java Darleen Villano

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Academic positions

University of Connecticut *Graduate Student* 2019-2025

Education

University of Connecticut *Ph.D. Mathematics* 2019-2025

- **Advisers:** David Reed Solomon and Damir D. Dzhafarov
- **Dissertation Title:** Computable Categoricity, and Topology in Reverse Mathematics

University of California, Berkeley *B.A. Mathematics with Logic Minor* 2015-2019

Research interests

Branches of computability theory, such as computable structure theory, algorithmic randomness, and reverse mathematics

Publications

The Ginsburg–Sands theorem and computability theory May 2024

Benham, H., DeLapo, A., Dzhafarov, D., Solomon, R., Villano, J.D.

Advances in Mathematics [↗](#)

Preprints

Computable categoricity relative to a c.e. degree January 2024

Villano, J.D.

[arXiv:2401.06641](#) [↗](#)

Normality, Relativization, and Randomness December 2023

Calvert, W., Gruner, E., Mayordomo, E., Turetsky, D., Villano, J.D.

[arXiv:2312.10204](#) [↗](#)

Teaching experience

Primary Instructor *Storrs, CT*

University of Connecticut 2023-2024

- **Fall 2024:** Math 1071Q (Calculus for Business and Economics), 2 sections
- **Spring 2024:** Math 1071Q (Calculus for Business and Economics), 1 section
- **Fall 2023:** Math 1071Q (Calculus for Business and Economics), 2 sections
- **Spring 2023:** Math 1071Q (Calculus for Business and Economics), 2 sections

Teacher Assistant *Storrs, CT*

University of Connecticut 2019-2022

- **Fall 2022:** Math 1132Q (Calculus II), 2 sections
- **Spring 2022:** Math 1132Q (Calculus II), 2 sections
- **Fall 2021:** Math 1131Q (Calculus I), 2 sections
- **Spring 2021:** Math 1132Q (Calculus II), 2 sections
- **Fall 2020:** Math 1132Q (Calculus II), 2 sections
- **Spring 2020:** Math 1132Q (Calculus II), 2 sections
- **Fall 2019:** Math 1131Q (Calculus I), 2 sections

Conference invitations

The New England Recursion and Definability Seminar <i>Dartmouth College</i>	<i>Hanover, NH</i> <i>Fall 2024</i>
Presentation title: Computable categoricity relative to a c.e. degree	
Computable Structure Theory and Interactions <i>Technische Universität Wien</i>	<i>Vienna, Austria</i> <i>Summer 2024</i>
Presentation title: Computable categoricity relative to a degree	
Joint Mathematics Meeting – AMS Special Session on Computable Mathematics: A Session Dedicated to Martin D. Davis	<i>San Francisco, CA</i> <i>Spring 2024</i>
Presentation title: Computable categoricity relative to a c.e. degree	
A Convergence of Computable Structure Theory, Analysis, and Randomness <i>Banff International Research Station</i>	<i>Banff, Alberta, Canada</i> <i>Spring 2023</i>
AMS New England Graduate Student Conference <i>Brown University</i>	<i>Providence, RI</i> <i>Spring 2022</i>
Presentation title: Priority arguments	

Contributed presentations

ASL North American Annual Meeting <i>Iowa State University</i>	<i>Ames, IA</i> <i>Spring 2024</i>
Presentation title: Computable categoricity relative to a c.e. degree	
AMS New England Graduate Student Conference <i>Brown University</i>	<i>Providence, RI</i> <i>Spring 2024</i>
Presentation titles: Topology in the Reverse Math Zoo; Computable categoricity relative to a c.e. degree	
17th International Conference on Computability, Complexity, and Randomness <i>Nagoya University</i>	<i>Nagoya, Japan</i> <i>Spring 2024</i>
Presentation title: Computable categoricity relative to a c.e. degree	

Conferences and workshops attended

CBMS Conference – Algorithmic Fractal Dimensions <i>Drake University</i>	<i>Des Moines, IA</i> <i>Spring 2024</i>
Computability and Combinatorics Summer School and Conference <i>UConn Hartford</i>	<i>Hartford, CT</i> <i>Spring 2023</i>
ASL Winter Meeting at the Joint Mathematics Meeting	<i>Boston, MA</i> <i>Spring 2023</i>
IMS Graduate Summer School in Logic <i>National University of Singapore</i>	<i>Singapore</i> <i>Summer 2022</i>

Seminar presentations

SIGMA Seminar <i>University of Connecticut</i>	<i>Storrs, CT</i> <i>Spring 2024</i>
Presentation title: The Ginsburg–Sands theorem and computability theory	
SIGMA Seminar <i>University of Connecticut</i>	<i>Storrs, CT</i> <i>Spring 2024</i>
Presentation title: Normality and Randomness	
SIGMA Seminar <i>University of Connecticut</i>	<i>Storrs, CT</i> <i>Fall 2023</i>
Presentation title: Randomness and Hausdorff dimension	

Connecticut Logic Seminar*University of Connecticut**Storrs, CT**Fall 2023***Presentation title:** Computable categoricity relative to a c.e. degree**SIGMA Seminar***University of Connecticut**Storrs, CT**Fall 2022***Presentation title:** When does the existence of an isomorphism imply the existence of a computable isomorphism?**Grants and funding**

Summer Doctoral Dissertation Fellowship*\$2,000 USD**Summer 2024***Predocctoral Fellowship***\$7,805 USD**Spring 2024***Outreach**

President of the Association of Women in Mathematics*University of Connecticut**Storrs, CT**2022-2024***Speaker at the Mathematics Continued Conference***University of Connecticut**Storrs, CT**Fall 2022*

The Mathematics Continued Conference seeks to give undergraduate students interested in math an opportunity to learn about graduate school and current research done by graduate students and faculty.

Course Tutor for SSS Math Program*University of Connecticut**Storrs, CT**Summer 2020*

Student Support Services (SSS) is a federally funded program at UConn which serves incoming students who are first-generation to college and/or come from communities underserved in higher education.

Languages

English*Advanced proficiency in reading, writing, and speaking**Second language learned,**learned in 2003***Tagalog***Intermediate proficiency in reading, writing, and speaking**Native language*