
SEAN DOUGLAS

Curriculum Vitae

PERSONAL INFORMATION

Name: Sean Patrick Douglas
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EDUCATION

University of British Columbia: Aug 2024 - present *Vancouver, British Columbia*

University of Missouri: 2018 - 2024 *Columbia, Missouri*
Graduate school in mathematics, PhD 2024

Greenville University: 2014-2018 *Greenville, Illinois*
Bachelor's of Arts in Mathematics

Kaskaskia College: 2012 - 2014 *Centralia, Illinois*
Associate in Science
Associate in Arts
Associate in General Studies
Nursing Assistant Certification

RESEARCH INTERESTS

My research interests center around Harmonic Analysis with topics such as singular integral operators, multilinear estimates, Littlewood-Paley theory, weighted norm inequalities, and broader function space estimates.

AWARDS

University of Missouri
Blumenthal Award 2023-2024
- Awarded to the foremost PhD graduate
Nigel Kalton Mathematics Fellowship 2022-2023
- Awarded to the foremost graduate researcher in analysis at UM
Excellence in Teaching Award 2019-2020
Greenville University
Summa Cum Laude- graduated with 4.00
Clair Carrey Mathematics Scholarship 2016-2018
- Awarded to the top upperclassmen math student
Science Society Scholarship 2014-2018

Kaskaskia College

Trustee's Academic Scholarship

2012-2014

ARTICLES

- *Higher order fractional chain rule*, submitted.
- *Fractional chain rule for Triebel-Lizorkin spaces*, in review.
- *Kato-Ponce inequality with $A_{\vec{p}}$ weights*, Collectanea 2024.
- *Remarks on almost everywhere convergence*, with L. Grafakos, Acta Mathematica Sinica 2024.
- *Weighted Kato-Ponce inequalities for multiple factors*, with L. Grafakos, Mathematische Nachrichten 2024.
- *Norm estimates for the fractional derivative of multiple factors*, with L. Grafakos, Journal Mathematical Analysis and Applications 2024.

INVITED TALKS

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| • Western Washington University Colloquium, Bellingham WA. | November, 2024 |
| • University of British Columbia Seminar, Vancouver BC. | October, 2024 |
| • Macquarie University-poster presentation, Sydney Australia. | June, 2024 |
| • Ohio River Analysis Meeting, Lexington KN. | March, 2024 |
| • Ohio State University Analysis Seminar (virtual), Columbus OH. | December, 2023 |
| • Prairie Analysis Seminar on Harmonic Analysis,
PDE and Geometric Measure Theory, Manhattan KS. | November, 2023 |
| • Missouri University of Science and Technology Analysis
Seminar, Rolla MO. | October 2023 |
| • University of Alabama Analysis Seminar, Tuscaloosa AL. | October, 2023 |
| • Kansas State University Analysis Seminar, Manhattan KS. | April, 2023 |
| • Washington University Analysis Seminar, St. Louis MO. | April, 2023 |
| • Rose-Hulman Undergraduate Mathematics Conference, Terre Haute IN. | April, 2017 |

TEACHING EXPERIENCE

- Made the majority of illustrations using PGF/TikZ in *Fundamentals of Fourier Analysis* by Loukas Grafakos.
- Gave 6 lectures in a graduate Harmonic Analysis course on the fundamentals of Muckenhoupt weights, at the University of Missouri.

Courses Taught

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| • Recitation Instructor UBC
- Calculus Math 101 (4 credit hours) | Fall 2024 |
| • Recitation Instructor MU
-Advanced Multivariate Calculus Math 4900/7900 (4 credit hours) | Spring 2024 |

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- Recitation Instructor MU, Homework/Quiz Planner and Grader
-Advanced Calculus Math 4700/7700 (4 credit hours) Fall 2023
 - Course Instructor MU, Test/Quiz Planner and Grader
-Calculus II Math 1700 (5 credit hours) Spring 2023
 - Grader-Real Analysis Math 8420 MU (Graduate Course) Fall 2022
 - Course Coordinator and Instructor MU (150 students)
-Precalculus Math 1160 (3 credit hours) Fall 2022
 - Course Instructor and Homework/Test Planner MU
-Differential Equations Math 4100 (6 credit hours) Summer 2022
 - Course Coordinator and Instructor-Precalculus Math 1160 MU (3 credit hours) Spring 2022
 - Course Instructor-Quantitative Reasoning Math 1050 MU (3 credit hours) Fall 2021
 - Recitation Instructor-Calculus I Math 1500 MU (6 credit hours) Fall 2021
 - Recitation Instructor-Calculus II Math 1700 MU (6 credit hours) Summer 2021
 - Recitation Instructor-Calculus I Math 1500 MU (6 credit hours) Spring 2021
 - Course Instructor-Business Calculus Math 1400 MU (6 credit hours) Fall 2020
 - Course Instructor-Quantitative Reasoning Math 1050 MU (3 credit hours) Summer 2020
 - Course Instructor-Quantitative Reasoning Math 1050 MU (6 credit hours) Spring 2020
 - Course Instructor-Finite Math 1300 MU (6 credit hours) Fall 2019
 - Course Instructor-College Algebra Math 1100 MU (3 credit hours) Summer 2019
 - Course Instructor-College Algebra Math 1100 MU (6 credit hours) Spring 2019
 - Course Instructor-College Algebra Math 1100 MU (6 credit hours) Fall 2018

SERVICE

- Have refereed two papers from different Journals.
- Graduate Mentor at week long graduate instructor workshop 2022, 2023
- CARES tutor to provide extra support for students from underprivileged backgrounds Fall 2019
- Mentor/Lecturer at math and science engagement week at Greenville University, which aims to get high school students interested STEM Fall 2017