BRANDON S. SWEETING

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Research Interests

· Harmonic Analysis · Bellman Functions · Singular Integral Operators · Sharp Estimates · BMO
· Dyadic Analysis · Best Constants · Weights · Factorization Theory · Extrapolation Theory

Education

PhD in Mathematics   Aug 2014 – Aug 2021
University of Cincinnati, Cincinnati, OH
    Dissertation Advisor: Leonid Slavin
    Dissertation Title: *Novel Bellman Estimates for A_p Weights*

BA in Mathematics   Aug 2011 – May 2014
University of South Florida, Tampa, FL
    Summa Cum Laude

Appointments

Postdoctoral Researcher   Aug 2021 – Present
University of Alabama, Tuscaloosa, AL

Publications

A characterization of a weighted weak-type estimate for the maximal operator [In Preparation]

Weighted weak type inequalities for maximal operators and singular integrals, with D. Cruz-Uribe
Arxiv e-prints: arXiv:2311.00828 (2023) [Submitted]

Quantitative weighted weak-type estimates for multilinearsparse operators, with Z. Nieraeth and C.
Stockdale [In Preparation]

Weighted weak-type boundedness and compactness in Calderón-Zygmund theory, with C. Stockdale [In
Preparation]

Sharp dyadic estimates via non-infinitesimal Bellman majorants, with L. Slavin [In Preparation]

The John-Nirenberg Constant for $BMO^p, 0 < p < 1$", with L. Slavin [In Preparation]

Conference Talks

AMS Spring Central Sectional Meeting (Upcoming)   20 April 2024
hosted by the University of Wisconsin-Milwaukee
TBD

Joint Mathematics Meetings 2024 (Upcoming)   6 January 2024
hosted by the American Mathematical Society
Multiplier Weak Type Inequalities for Maximal Operators and Singular Integrals

Workshop in Analysis (Upcoming)   8 December 2023
hosted by Georgia Institute of Technology
TBD

Prairie Analysis Seminar 19 (Upcoming)   3 November 2023
hosted by Kansas State University
Multiplier Weak Type Inequalities for Maximal Operators and Singular Integrals

AMS Spring Central Sectional Meeting   15 April 2023
hosted by the University of Cincinnati
Multiplier Weak Type Inequalities for Maximal Operators and Singular Integrals

Ohio River Analysis Meeting 12   18 March 2023
hosted by the University of Cincinnati
Multiplier Weak Type Inequalities for Maximal Operators and Singular Integrals

Southeastern Analysis Meeting 39   10 March 2023
hosted by Clemson University
Multiplier Weak Type Inequalities for Maximal Operators and Singular Integrals

AMS Fall Southeastern Sectional Meeting   20 November 2021
hosted virtually by the American Mathematical Society
The John-Nirenberg Constant for $BMO^p, 0 < p < 1$

Prarie Analysis Seminar 17   6 November 2021
hosted virtually by Kansas State University
New Estimates for Dyadic Carleson Sequences

AMS Spring Central Sectional Meeting   17 April 2021
hosted virtually by the American Mathematical Society
New Estimates for Dyadic Carleson Sequences

Ohio River Analysis Meeting 10   20 March 2021
hosted virtually by the University of Kentucky
The John-Nirenberg Constant for $BMO^p, 0 < p < 1$

Southeastern Analysis Meeting 37   13 March 2021
hosted virtually by the University of Florida
New Estimates for Dyadic Carleson Sequences

Seminars & Colloquia

Analysis Seminar at The University of Alabama   4 October 2023
Multiplier Weak Type Inequalities for Maximal Operators and Singular Integrals

Analysis Seminar at Washington University in St. Louis   18 September 2023
Multiplier Weak Type Inequalities for Maximal Operators and Singular Integrals

Analysis Seminar at The University of Alabama   21 September 2022
Mixed Weak-Type Estimates for Classical Operators

Analysis Seminar at Clemson University   24 September 2021
The John-Nirenberg Constant for $BMO^p, 0 < p < 1$

Analysis Seminar at The University of Alabama   29 January 2021
Novel Bellman Estimates for A_p Weights

Research Visits & Conferences Attended

Clemson University Research Visit   3 June - 14 June 2023
hosted by Cody Stockdale

Extremal Problems in Harmonic Analysis   28 November - 2 December 2022
hosted by ICERM at Brown University

Harmonic Analysis and Related Topics   13 July - 17 July 2022
hosted by Centre de Recerca Matemàtica

11th International Conference on Harmonic Analysis and PDEs   6 July - 10 July 2022
hosted by Universidad Autónoma de Madrid

CBMS 2020   23 June - 27 June 2022
hosted by Florida State University

Teaching Experience

The University of Alabama

· Discrete Mathematics   Spring 2024

· Discrete Mathematics   Fall 2023

· Introduction to Complex Variables   Spring 2023

· Applied Differential Equations I   Fall 2022

· Introduction to Linear Algebra   Spring 2022

· Discrete Mathematics   Fall 2021

University of Cincinnati

· Introduction to Mathematical Reasoning (online)   Summer 2021

· Introduction to Mathematical Reasoning (online)   Spring 2021

· Foundations of Quantitative Reasoning (online)   Fall 2020

· Mathematics of Social Choice (online)   Summer 2020

· Mathematics of Management Science   Spring 2020

· Mathematics of Social Choice (online)   Fall 2019

· Mathematics of Social Choice (online)   Summer 2019

· Mathematics of Management Science	Spring 2019
· Mathematics of Social Choice (online)	Fall 2018
· Mathematics of Management Science (online)	Spring 2018
· Applied Calculus I	Fall 2017
· Mathematics of Social Choice	Spring 2017
· Mathematics of Management Science	Fall 2016
· Applied Calculus II (online)	Summer 2016

University of Cincinnati (TA)

· Calculus II, 3 sections	Spring 2016
· Calculus I, 2 sections	Fall 2015
· Calculus I, 3 sections	Spring 2015
· Calculus II, 3 sections	Fall 2014

Honors and Awards

· Maita Levine Award for Outstanding GA	Spring 2020
· Albert C. Yates Fellow	2014 – 2021
· King O'Neal Scholar	Spring 2014

Graduate Coursework

· Real Analysis · Complex Analysis · Topology · Harmonic Analysis · Functional Analysis · Probability · Ordinary Differential Equations · Partial Differential Equations · Stochastic Differential Equations · Geometric Function Theory · Geometric Analysis · Numerical Analysis · Linear Algebra

Relevant Skills

Languages: English, French

Programming Languages: Python, Java, Swift, Mathematica

Programming Libraries/APIs: TensorFlow, Keras, Scikit-Learn, PyCUDA, Scipy, Numpy

Professional Activities

Journal Referee: *Collectanea Mathematica*

Professional Affiliations

American Mathematical Society (AMS)	2014 – present
Pi Mu Epsilon, Florida Epsilon Chapter (USF)	2013 – present