# 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 [In Preparation]

*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