

SASANKA WIJESIRI GUNAWARDANA

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RESEARCH INTERESTS

Euclidean harmonic analysis, sharp inequalities and optimizers, inequalities for martingales, weighted inequalities, behavior of function classes involving scale (VMO, flattening weights) under monotone rearrangement, scale-dependent Bellman functions for such classes.

EDUCATION

University of Cincinnati

August 2020- Present

Ph.D. in Mathematics (expected May 2026)

GPA 3.79/4.0

Research experience:

- *Flattening weights and non autonomous Bellman functions*, Advisor: Leonid Slavin, Ph.D.

University of Colombo, Colombo 3

February 2015- December 2018

Bachelor of Science in Mathematics

GPA 3.5/4.0 (First Class Honors)

Course work includes Pure mathematics, Applied mathematics, Physics and Computer Science.

University of Colombo, School of Computing, Colombo 03

February 2011- August 2013

Higher Diploma in Information Technology

PREPRINT PUBLICATIONS

- *Monotone rearrangement theorem for Flattening weights.*
- *Bellman function analysis on Flattening weights F_2 .*
- *Bellman function analysis on Flattening weights F_∞ .*

PRESENTATIONS

Conference talks

- *Ohio River Analysis Meeting*-University of Cincinnati 2025.
- *Prairie Analysis Seminar*-University of Kansas 2024.
- *Ohio River Analysis Meeting*-University of Kentucky 2024.

Seminar talks

- Graduate student seminar-University of Cincinnati Department of Mathematical Sciences Fall 2024.
- Graduate student association math seminar- University of Cincinnati Department of Mathematical Sciences Spring 2023.

AWARDS

- *Taft Dissertation Fellowship*-Taft Research Center-2024.
- *Taft Travel Award*-Taft Research Center-2024.

- *Levine Summer Research Fellowship*-Department of Mathematical Sciences University of Cincinnati-2023.

WORK HISTORY

Department of Mathematical Sciences , University of Cincinnati
Adjunct Graduate Assistant

August 2025-Present

- Instructor on record
 - College Algebra (Math 1021-009)-Fall 2025
 - College Algebra (Math 1021-012)-Fall 2025

Department of Mathematical Sciences , University of Cincinnati *January 2021-August 2025*
Graduate Assistant

- Instructor of record
 - Pre-Calculus (Math 1026)-Summer 2025
 - Calculus II (Math 1062)-Summer 2024
 - College Algebra (Math 1021)-Spring 2024
 - Applied Calculus I (Math 1044)-Fall 2022
 - Pre-Calculus (Math 1026)-Summer 2022
 - Applied Calculus II (Math 1044)-Spring 2022
 - Mathematics of Social Choice (Math 1014)-Fall 2021
- Teaching Assistant
 - Pre-Calculus and Calculus I (Math 1060)-Fall 2023
 - Calculus II (Math 1062)-Fall 2023
 - Calculus I (Math 1061)-Spring 2023
 - Calculus II (Math 1062)-Spring 2023
 - Pre-Calculus and Calculus I (Math 1060)-Spring 2021
 - Calculus I (Math 1061)-Spring 2021

Faculty of Science , University of Colombo
Assistant Lecturer/Instructor

February 2019- December 2020

- Instructor of record
 - Essential Mathematics for Statistics (ST 3013)-Semester II-2019
 - Essential Mathematics for Statistics (ST 3013)-Semester II-2020
- Teaching Assistant
 - Sets and Combinatorics (PM 1004)-Semester I-2019
 - Calculus II (PM 2001)-Semester I-2019
 - Linear Algebra (PM 2002)-Semester I-2019
 - Differential equation II (AM 2001)-Semester I-2019
 - Real Analysis II (PM 3052)-Semester II-2019
 - Foundations of Mathematics (PM 1011)-Semester I-2020
 - Basic Analysis I (PM 1013)-Semester II-2020
- Administrative duties.
 - Assistant Coordinator of MSc in Mathematics education.
 - Assistant Coordinator of the Mathematics special program.

- Department representative of the Accelerating higher education expansion and development (AHEAD) operation.
- Organizing Committee Member of Teacher Capacity Improvement Program in Advanced Level, Combined Mathematics in the Western Province

Faculty of Arts, University of Colombo

February 2019- February 2020

Visiting Lecturer

- Instructor of record
 - Basic Mathematics (FND 1107)-Semester I-2019
 - Basic Mathematics (FND 1207)-Semester II-2019

LEADERSHIP AND COMMUNITY INVOLVEMENT

Sri Lanka Olympiad Mathematics Foundation

February 2019 - November 2020

Resource Person

- Was part of the organizing team of Sri Lankan Mathematics Competition 2019.
- Conducted a seminar at CMS Ladies' College, Colombo 07 on Olympiad Mathematics.
- Was part of the organizing group of team selection examinations for HKIMO, TIMO 2019.

Delta-Epsilon Society, University of Colombo

January 2018- February 2019

Editor/ IT coordinator

- Was part of the organizing team of Sri Lanka Mathematics Competition 2017 and Sri Lanka Mathematics Competition 2018.
- Organized Math Circles with undergraduates to discuss interesting topics in mathematics.

Mathematics Graduate Student Association, University of Cincinnati Department of Mathematics

January 2021- present

member

Sri Lankan Student Association, University of Cincinnati

January 2022- present

member