

CADE BALLEW

ballew@uw.edu
cade-b.github.io

EDUCATION

University of Washington

- Ph.D. in Applied Mathematics 2021–2026 (Expected)
 - Advisor: Tom Trogdon.
- M.S. in Applied Mathematics 2021–2022

Rice University

- B.A., *magna cum laude* 2017–2021
 - Majors: Computational and Applied Mathematics; Mathematical Economic Analysis
 - Minor: Mathematics

PUBLICATIONS AND PREPRINTS

Publications

1. C. Ballew and T. Trogdon. A Riemann–Hilbert approach to computing the inverse spectral map for measures supported on disjoint intervals. *Studies in Applied Mathematics*, 152(1):31–72, 2024.

Preprints

1. C. Ballew and T. Trogdon. The Akhiezer iteration. *arXiv preprint 2312.02384*, 2023.

Software

1. C. Ballew and T. Trogdon. <https://github.com/cade-b/RecurrenceCoefficients.jl>, 2023.

INVITED TALKS

3. *Applications of numerical solutions of Riemann–Hilbert problems on disjoint intervals*. SIAM Conference on Nonlinear Waves and Coherent Structures, Baltimore, MD, June 2024.
2. *Numerical solutions of Riemann–Hilbert problems on disjoint intervals*. CMS Summer Meeting, University of Saskatchewan, June 2024.
1. *Computing with orthogonal polynomials on disconnected domains*. SIAM PNW Biennial Meeting, Western Washington University, October 2023.

POSTERS

2. *Computing with orthogonal polynomials for integrable systems: A Riemann–Hilbert approach*. SIAM Conference on Nonlinear Waves and Coherent Structures, Baltimore, MD, June 2024.
1. *Computing with orthogonal polynomials on disconnected domains: A Riemann–Hilbert approach*. Workshop on complex analysis: techniques, applications and computations, Isaac Newton Institute, July 2023.

CONFERENCE ORGANIZATION

2. Session co-organizer, Joint Mathematics Meetings 2025, AMS Special Session on “Recent Advancements in Integrable Systems and Orthogonal Polynomials”, Seattle, WA, January 2025.
1. Session co-organizer, SIAM PNW Biennial Meeting, Session on “Scientific Computing and Numerical Analysis”, Western Washington University, Bellingham, WA, October 2023.

TEACHING EXPERIENCE

University of Washington

- Instructor of Record, AMATH 353 (Partial Differential Equations and Waves), Summer 2024.
- Teaching Assistant, AMATH 567 (Applied Complex Analysis), Autumn 2023.
- Teaching Assistant, CFRM 507 (Optimization Methods in Finance), Autumn 2021, Autumn 2022.

Rice University

- Grader, CAAM 336 (Differential Equations in Science and Engineering), Spring 2019.

SERVICE

- SIAM UW Student Chapter
 - Vice President 2022–2023
 - Outreach Coordinator 2023–2024
- Numerical Analysis Research Club
 - Student organizer Spring 2023, Autumn 2023

AWARDS

- Wan Fellowship 2021–2024
- Phi Beta Kappa 2021
- Peter Mieszkowski Prize for Honors Program Research 2021
- Malcolm Gillis Award in Mathematical Economic Analysis 2021
- Honors in Economics 2021
- Louis J. Walsh Scholarship 2020–2021
- Michael D. Maher RISE Award in Economics 2020
- Rice University President’s Honor Roll (5 semesters)