Cashous W. Bortner

Department of Mathematics

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EMPLOYMENT

Assistant Professor of Mathematics   **August, 2022 - Present**

California State University Stanislaus

RESEARCH INTERESTS

Algebraic, combinatoric, and graph theoretic approaches to problems in biological and physical systems; parameter identifiability; graph theory.

EDUCATION

Ph.D. in Mathematics, North Carolina State University   **May, 2022**

   Thesis: "Identifiability Analysis of Two Families of ODE Models"

   Advisor: Seth Sullivant

M.S. in Mathematics, North Carolina State University   **May, 2019**

B.S. in Mathematics, University of Nebraska-Lincoln   **May, 2017**

PUBLICATIONS

1. **Bortner**, **C.**, Gross, E., Meshkat, N., Shiu, A. & Sullivant, S. Identifiability of linear compartmental tree models and a general formula for the input-output equations. *Advances in Applied Mathematics* **146** (May 2023).

2. **Bortner**, **C.** & Sullivant, S. Structural Identifiability of Series-Parallel LCR Systems. *Journal of Symbolic Computation.* **112,** 79–104 (Sept. 2022).

3. **Bortner**, **C.** & Meshkat, N. Identifiable Paths and Cycles in Linear Compartmental Models. *Bulletin of Mathematical Biology.* **84,** 53 (Mar. 2022).

4. Bernstein, P., **Bortner**, **C.**, Coskey, S., Li, S. & Simpson, C. The Set Splittability Problem. *The Australasian Journal of Combinatorics* **75,** 190–209 (Oct. 2019).

INVITED PRESENTATIONS

- Algebraic Approaches to Mathematical Biology, Joint Math Meetings, San Francisco, CA, January 2024
- Discrete, Topological, and Algebraic Methods in Mathematical Biology Speical Session, American Mathematical Society Central Sectional Meeting, Creighton University, Omaha, NE, October 7-8th, 2023
- SIAM Conference on Applied Algebraic Geometry, Eindhoven University of Technology, Eindhoven, The Netherlands, July 10-14th, 2023 (virtual)
- Differential Algebra and Related Topics conference, School of Mathematical Sciences, Queen Mary University of London, June 2023
- California State University Long Beach Math Department Colloquium, April 21st, 2023 (virtual)
- Morehead State University Math Department Colloquium, April 14th, 2023 (virtual)
- Santa Clara University Math Department Colloquium, October 11th, 2022

- A Speaker Series for the Quantitatively Curious Colloquium, California State University Stanislaus, September 23rd, 2022

Teaching Experience

MATH 3400: Set Theory and Logic	Fall 2023 (19 students)
MATH 3400: Set Theory and Logic	Spring 2023 (21 students)
MATH 2300: Discrete Structures	Spring 2023 (27 students)
MATH 1070: College Algebra	Spring 2023 (35 students)
MATH 1420: Calculus II	Fall 2022 (16 students)
MATH 1410: Calculus I	Fall 2022 (25 students)

Workshops and Trainings

- Near Peer Panel Panelist, CSU Stanislaus New Faculty Orientation, August 14th, 2023
- Research Experence for Undergraduate Faculty (REUF) Workshop, American Institute of Mathematics(AIM)/Institute for Computational and Experimental Research in Mathematics (ICERM), Providence, Rhode Island, August 7-11th, 2023
- CSUBIOTECH Planning Meeting, Office of the Chancellor, July 31st, 2023
- New Student Orientation Advisor, 4 Sessions, July 2023
- Central California Math Project workshop: Social Justice in the Math Classroom - Putting Theory into Practice (24 hours), July 2023
- CSU Student Success Dashboard Workshop, April 26th, 2023
- MSRI Critical Issues in Mathematical Education: Mentoring for Equity, MSRI, March 22-24th, 2023
- STEM-NET: Becoming more than the sum of our parts conference, March 16-17th, 2023
- Measuring Teaching Effectiveness Workshop, FCETL via zoom, October 27th, 2022
- NSF S-STEM Grant Planning Meeting, October 11-12th, 2022
- Using Inquiry to Teach Mathematics and Thinking, MAA Workshop via zoom, September 29th, 2022
- MathFest, August 2022
  - Active Learning with Active Calculus Mini-course (4 hours)
  - The Role of Culturally Relevant Pedagogy and Identity Development in the Teaching and Learning of Mathematics
  - Teaching with Inquiry: Growing our Practice Together
  - How to Create Safe and Community Responsive Outreach Programs
  - Teaching and Leading towards Institutional Change
  - Making Teaching Matter More: Active-learning Strategies and Barriers to Implementation
  - Townhall on Latinx Mathematicians

Professional Memberships and Fellowships

- CSUBIOTECH Faculty Consensus Group Representative, Summer 2023-Present
- Career and Professional Development Center Faculty Fellow, Fall 2023-Present
- CSU Stanislaus Grant Writing Cohort, Spring 2023-Present
- Mathematics Faculty Fellow: Catalyzing Ideas for the San Joaquin Valley: Innovating Mathematics and Chemistry Curriculum, Fall 2022-Present
- Faculty Mentor Program Mentor, Fall 2022-Present
- Mathematical Association of America Project NExT (New Experiences in Teaching) Fellow, Fall 2022-Fall 2023
- Mathematical Association of America (MAA), Fall 2019-Present
- American Mathematical Society (AMS), January 2022-Present
- Society for Industrial and Applied Mathematics (SIAM), Fall 2019-Present