Joshua Sumpter

Address: Department of Mathematics
University of Rochester
803 Hylan Building
Rochester, NY 14627

Email: jsumpter@math.rochester.edu
Phone: (585) 275-4416

EDUCATION

University of California Davis
Ph.D., Mathematics — June 2021

University of California Davis
M.A., Mathematics — June 2018

University of California Davis
B.S., Mathematics — June 2014

RESEARCH INTERESTS

- Random Matrix Theory
- Probability Theory and Applications
- Mathematical Physics
- Combinatorics

CURRENT RESEARCH

Random Matrix Theory
I currently study the convergence properties of various linear statistics with distributions determined by classical Random Matrix ensembles such as $C\beta E$. By studying these types of statistics we gain further insight into models that have deep connections to the Riemann Hilbert Problem as well as various topics in Mathematical Physics.

PAPERS AND PREPRINTS

- Pair Dependent Linear Statistics for Circular Random Matrix Ensembles; My Dissertation. 2021. (Soon to appear on Proquest.)
  -https://www.math.ucdavis.edu/ tdenena/dissertations/202103_Sumpter_Dissertation.pdf
- Pair Dependent Linear Statistics for $C\beta E$; joint work with A. Soshnikov and A. Aguirre. 2019
  - https://arxiv.org/abs/1912.07110

TEACHING EXPERIENCE

ASSOCIATE INSTRUCTOR
(Instructor of Record) — *University of California, Davis*

As an Associate Instructor for the UC Davis Mathematics Department, I prepared lectures, wrote exams, and submitted formal evaluations for students. I have taught both 10 week courses during the regular academic year as well as accelerated six week courses during Summer Sessions.

Regular Quarter Teaching Assignments:
- Vector Calculus (21D) — September 2020 - December 2021

Summer Session Teaching Assignments:
- Real Analysis (127A) — June 2020 - August 2020
- Partial Derivatives and Series (21C) — August 2019 - September 2019
- Partial Derivatives and Series (21C) — August 2018 - September 2018
- Integral Calculus (21B) — August 2017 - September 2017

TEACHING ASSISTANT — September 2015 - Present
Various Courses — *University of California, Davis*

As a teaching assistant for the UC Davis Mathematics Department, my primary duties

involved teaching two discussion sections each week, holding office hours, and evaluating student work.

Teaching Assistant Assignments:

- Stochastic Processes (135B) — Spring 2020
- Probability (135A) — Winter 2020
- Real Analysis (127A) — Fall 2019
- Real Analysis (127B) — Spring 2019
- Real Analysis (127A) — Winter 2019
- Integral Calculus (21B) — Spring 2018-Fall 2018
- Partial Derivatives and Series (21C) — Winter 2018
- Differential Calculus (21A) — Fall 2017
- Calculus for Biological Sciences (17B) — Spring 2017
- Short Calculus (16A) — Winter 2017
- Integral Calculus (21B) — Fall 2016
- Calculus for Biological Sciences (17C) — Spring 2016
- Calculus for Biological Sciences (17B) — Fall 2015-Winter 2016
- Integral Calculus (21B) — Fall 2015

MATH/PHYSICS TUTOR — October 2013-June 2014
Partners In Learning — *Davis, CA*

As a Math and Physics tutor for 7th-12th grade, my primary responsibilities included meeting with a variety of students from diverse backgrounds, assessing their academic needs, and providing one on one academic guidance/instruction.

CONFERENCES/ PRESENTATIONS

- Student Run Math/Applied Math Seminar(Invited Speaker) — February 2020
  UC Davis Department of Mathematics — *Davis, CA*
- 11th Cornell Probability Summer School — June 2019
  (Attendee) — *Ithaca, NY*
- CRM Workshop — November 2018
  (Attendee) — *Montreal*
  Topic: Spectral Theory of Semi-Periodic and Random Operators
- International Congress for Mathematical Physics (ICMP) — August 2018
  (Attendee) — *Montreal*
- Student Run Math/Applied Math Seminar(Invited Speaker) — April 2018
  UC Davis Department of Mathematics — *Davis, CA*

ACADEMIC SERVICE

- UC Davis SIAM Chapter Officer — 2018-2019

AWARDS/ HONORS

- Outstanding Performance Citation,
  UC Davis, Department of Mathematics — 2014

PROGRAMMING

- Working knowledge of LaTeX, Python, Sage, MS Office