Joe W. Webster

Personal Information

University of Oregon
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Education

- Ph.D. Mathematics, University of Oregon, Spring 2021 (expected)
  Advisor: Christopher D. Sinclair

- B.S. Mathematics, University of California Davis, 2013
  Minor in Physics

Research Interests

- Non-archimedean analysis and statistical mechanics, local zeta functions, combinatorics, adèlic harmonic analysis

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Publications

- *log-Coulomb gas with norm-density in p-fields*, to appear in *p-adic Numbers, Ultrametric Analysis and Applications* in January 2021

- Thesis: *The combinatorics of log-Coulomb gas in p-fields*, to be completed in March 2021

Invited Talks and Presentations

- *The p-adic Mehta Integral*, UO Number Theory Seminar, October 21, 2020

- *Estimating a p-adic volume via coin problems*, PSU Combinatorics Seminar, February 10, 2020

- *log-Coulomb gas in a nonarchimedean local field*, OSU Number Theory Seminar, April 4, 2019, and UO Number Theory Seminar, June 4, 2019

- *A $\mathfrak{p}$-adic Integral by Combinatorics* (poster), Oregon Number Theory Days, February 16, 2019

Honors and Awards

- Frank W. Anderson Graduate Teaching Award, Spring 2019

- E.M. Johnson Memorial Award, Summer 2018

Teaching Experience

- I was the Instructor of Record for the following courses at University of Oregon:

Term	Course Number	Course Name
Spring 2020	Math 253	Calculus III
Winter 2020	Math 316	Fundamentals of Analysis
Summer 2019	Math 316	Fundamentals of Analysis
Fall 2018	Math 111	College Algebra (two sections)
Spring 2018	Math 253	Calculus III
Winter 2018	Math 252	Calculus II
Fall 2017	Math 252	Calculus II
Summer 2017	Math 251	Calculus I
Spring 2017	Math 251	Calculus I
Fall 2016	Math 112	Elementary Functions
Summer 2016	Math 106	University Math II
Spring 2016	Math 112	Elementary Functions
Winter 2016	Math 112	Elementary Functions
Summer 2015	Math 243	Intro to Probability and Statistics
Spring 2015	Math 111	College Algebra
Winter 2015	Math 111	College Algebra
Fall 2014	Math 111	College Algebra

- I am currently a Teacher's Assistant for College Algebra (Math 111).

- I graded and held office hours for Fundamentals of Analysis (Math 413/513) in Fall 2019.

- I was a Teacher's Assistant for Business Calculus I (Math 241) in Winter 2017 and Fall 2015.

Service and Memberships

- Committee member for the Junior Mathematician Research Archive, July 2020 - present

- Cofounder and mentor for UO Undergraduate Directed Reading Program, June 2018 - present

- Organizer for UO Graduate Student Number Theory Seminar, January 2018 - March 2019

- Instructor for UO Math Department incoming graduate student "Boot Camp", August 2018

- Mentor in the UO AWM Undergraduate Reading Program, January 2017 - March 2018

- Taught summer classes on modular and fractal origami to high-school students through the UC Davis COSMOS program, 2012 and 2013

- Interned in a Davis Senior High School class through the UC Davis MAST program, Fall 2012

EXPOSITORY TALKS

- *Basics of p-adic Lebesgue integration*, UO Graduate Student Seminar, January 10, 2019

- *Fun facts about $\mathbb{Z}_p$*, UO Graduate Student Seminar, November 8, 2018

- *p-adic integration by combinatorics*, UO Graduate Student Seminar, October 16, 2018

- *Fourier analysis on $\mathbb{Q}_p$*, UO Graduate Student Seminar, April 10, 2018

- *Characters on $\mathbb{Q}_p$*, UO Graduate Student Seminar, April 3, 2018

- *The analytic continuation of $\zeta(s)$*, UO Graduate Student Seminar, February 15, 2018

- *Places, adèles, and idèles: Part IV*, UO Graduate Student Seminar, October 31, 2017

- *Places, adèles, and idèles: Part III*, UO Graduate Student Seminar, October 24, 2017

- *Places, adèles, and idèles: Part II*, UO Graduate Student Seminar, October 17, 2017

- *Places, adèles, and idèles: Part I*, UO Graduate Student Seminar, October 10, 2017

- *Finiteness of class number: Minkowski style*, UO Graduate Student Seminar, October 2017

- *The Robinson-Schensted algorithm*, UO Symmetric Function Seminar, April 2017

- *The p-adic absolute value*, UO Graduate Student Seminar, January 2017

CONFERENCES AND WORKSHOPS ATTENDED

- Lluís Santaló Summer School: *p*-adic Analysis, Arithmetic, and Singularities, Santander, Spain, June 24-28, 2019

- Oregon Number Theory Days, Eugene/Portland/Corvallis, OR, 2017-2019

- 2018 Arizona Winter School on Arithmetic Geometry, Tucson, AZ, March 3-7, 2018

- 2018 Joint Mathematics Meetings, San Diego, CA, January 10-13, 2018

- 18th Northwest Probability Seminar, Redmond, WA, November 5, 2016

PROFICIENCIES

- *Software:* TeXShop, Xcode, Matlab, Microsoft Office

- *Programming/Typesetting:* C/C++, LaTeX