KYLE R. CHICKERING

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SUMMARY

I am interested in nonlinear partial differential equations and analysis, in particular fluid equations and related models. My work focuses on understanding nonlinear fluid behaviors, singularities, and nonlocal transport phenomena.

EDUCATION

University of California, Davis 2019 - 2024
Ph.D. in Applied Mathematics
Advisor: Steve Shkoller

University of California, Davis 2019 - 2021
M.S. in Applied Mathematics

University of California, Davis 2017 - 2019
B.S. in Applied Mathematics, Minor in Computer Science, Thesis
Advisor: Tim Lewis

EXPERIENCE

UC Davis Department of Mathematics June 2018 - October 2019
Research Assistant
Advisor: Professor Tim Lewis

MobiledgeX Summer 2018
Engineering Intern

Pluribus Networks Summer 2016, Summer 2017
Engineering Intern

AWARDS & RECOGNITION

Mathematics Department Fellowship Fall 2020
Awarded by the Mathematics department.

Citation for Excellence in Undergraduate Research October 2019
Awarded by the Mathematics department.

Mathematics Department Summer Fellowship Summer 2019
Stipend to conduct research over the summer. Advisor: Tim Lewis

Citation for Outstanding Performance June 2019
Awarded by the Mathematics department.

Departmental Citation June 2019
Awarded by the Mathematics department.

UC Davis Outstanding Senior Award in Applied Mathematics May 2019
Awarded to a single student in applied mathematics by the University.

Deans' Honor List

SERVICE

Mathematics Directed Reading Program   Winter, Spring 2021
Co-Organizer

Student Run Research Seminar   2020/2021 Academic Year
Organizer

UC Davis Galios Group   2020/2021 Academic Year
Treasurer

Student Run Research Seminar   Spring 2020
Co-Organizer

UC Davis Mathematics Reserach Conference   January 2020
Lead Organizer

UMAP (Undergraduate Mathematics and Physics Reading Group)   April 2019-September 2019
Co-organizer, Speaker

UC Davis Math Circle   October 2018 - October 2019
Secretary and Treasurer

TALKS AND PRESENTATIONS

Asymptotic Self-Similar Shock Formation for 1D Fractal Burgers   April 2021
UC Davis Student run Analysis and PDE Seminar

Long Time Existence via a Modified Energy Method   February 2020
UC Davis Student run Analysis and PDE Seminar

Effect of Elastic Fluids on Cilia Dynamics   October 2019
UC Davis Undergraduate Mathematics Research Conference

Measure Theory, Integration, and L^p Spaces   April 2019
Undergraduate Math and Physics Reading Group

**Mathematical Modeling of Anomalous Electrical Activity in Networks of TSC1- Mutant Neurons
in the Thalamus**   April 2019
UC Davis Spring Research Conference

Fractals and Recursion   March 2019
UC Davis Math Circle

LaTeX: A Document Preparation System   February 2019
UC Davis Math Club

**Spike-Escape Behavior in Electrically Coupled Thalamocortical Relay Cells with TSC1 Gene
Deletion**   October 2018
UC Davis Undergraduate Mathematics Conference

PREPRINTS AND PUBLICATIONS

1. Asymptotically self-similar shock formation for 1D fractal Burgers equation   May 2021
arXiv preprint. Joint work with Ryan C. Moreno-Vasquez and Gavin Pandya.

TEACHING

Instructor - MAT 022B: Differential Equations Summer 2021

TA - MAT 022B: Differential Equations Spring 2021
Instructor: John Challenor

TA - MAT 021D: Vector Calculus Winter 2021
Instructor: Professor Steve Shkoller

TA - MAT 118: Partial Differential Equations Fall 2020
Instructor: Professor Kevin O'Neill

Instructor - MAT 022A: Linear Algebra Summer 2020
Prepared and delivered lectures and exams.

TA - MAT 022B: Differential Equations Spring 2020
Instructor: Dowman Varn

TA - MAT 119: Nonlinear Dynamics Winter 2020
Instructor: Professor Tim Lewis

TA - MAT 21B: Integral Calculus Fall 2019
Instructor: John Challenor

TA - MAT 21B: Integral Calculus Fall 2019
Instructor: Professor Ben Morris