Patrick Flynn

Contact Information

Brown University
Division of Applied Mathematics
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Research Interests

Partial differential equations

Education

Brown University
Ph.D. Candidate, Applied Mathematics (2018-Present)
M.S. in Applied Mathematics (2020)
Advisor: Benoit Pausader

Oregon State University
B.S. in Mathematics and Physics (2014-2018)
Summa Cum Laude

Publications

Flynn, Patrick. The massless electron limit for the Vlasov-Poisson-Landau System (with Yan Guo). In preparation as of 2022.

Flynn, Patrick. Scattering map for the Vlasov–Poisson system (with Zhimeng Ouyang, Benoit Pausader, and Klaus Widmayer). *Peking Mathematical Journal* (2021): 1-28.

Flynn, Patrick. The vanishing surface tension limit of the Muskat problem (with Huy Q. Nguyen). *Communications in Mathematical Physics* 382.2 (2021): 1205-1241.

Flynn, Patrick. Self-organized clusters in diffusive run-and-tumble processes (with Quinton Neville, and Arnd Scheel). *Discrete and Continuous Dynamical Systems-Series S* 13.4 (2019): 1187-1208.

Invited Talks

Online North East PDE and Analysis Seminar (February 2021)

University of Michigan, Differential Equations Seminar (March 2022)

University of Barcelona, Mathematical Analysis Seminar (June 2022)

Brown University PDE Seminar (September 2022)

Boston University Dynamics Seminar (September 2022)

Teaching Experience

Spring	2020	Teaching Assistant, Applied Partial Differential Equations
Fall	2019	Teaching Assistant, Applied Partial Differential Equations
Fall	2022	Instructor, Single Variable Calculus, Part II

Honors and Awards

2020–Present	National Science Foundation Graduate Research Fellowship
2018–2020	Presidential Fellowship, Brown University

Graduate Coursework

- Real Analysis
- Partial Differential Equations
- Dynamical Systems

- Probability Theory

Outreach

2020 Applied math directed reading program on stochastic control
Advisee: Thor Stead

2019 Led student workshop on the Rayleigh-Taylor instability at applied math graduate student retreat

Undergraduate Research Experience

2018 Computational Physics Student Summer Workshop
Advisors: Juan Saenz, Jesse Canfield
Los Alamos National Laboratory

2017 Complex Systems REU
Advisor: Arnd Scheel, Department of Mathematics
University of Minnesota, Twin Cities