ELLIOT CARTEE

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Research Experience

-Research with Prof. Alexander Vladimirsky (Cornell University) on Pedestrian Flow Modeling, Surveillance-Evasion Games, Uncertainty Quantification, and Mean Field Games, 2014-2019

-Visiting Student Research Collaborator with the Department of Operations Research and Financial Engineering at Princeton University, Fall 2018

-REU Graduate Student Mentor, worked with Prof. Alexander Vladimirsky on Optimality and Uncertainty, Cornell University, Summer 2018

-REU Participant, worked with Prof. Alexander Kiselev on Analysis and PDEs, University of Wisconsin-Madison, Summer 2013

-REU Participant, worked with Prof. John Blondin on Computational Astrophysics, North Carolina State University, Summer 2012

Awards

-Robert J. Bättig Graduate Prize for Excellent Achievements in Research ($2500 prize)

Cornell Mathematics Department 2018-2019

-Pauline and Irving Tanner Dean's Scholar, Cornell University

Publications

-Cartee, E., & Vladimirsky, A. (2018). Anisotropic Challenges in Pedestrian Flow Modeling. *Communications in Mathematical Sciences,* 16(4), 1067-1093.

-Khan, S., Johnson, J., Cartee, E., & Yao, Y. (2015). Global regularity of chemotaxis equations with advection. *Involve, a Journal of Mathematics*, 9(1), 119-131.

-L. N. Virgin, R. H. Plaut and E. V. Cartee (2015) Adjacent Equilibria in Highly Flexible Upright Loop on Rigid Foundation. *Experimental Mechanics*, **55**, 10.1007/s11340-015-0011-7.

Presentations

Surveillance-Evasion Mean Field Games (Poster): October 11, 2018

NSF Algorithms for Threat Detection Workshop, American University

Anisotropic Challenges in Pedestrian Flow Modeling (Poster): August 28, 2017

Mean Field Games Workshop, UCLA (IPAM)

Models of Pedestrian Flow: April 6th, 2015

Scientific Computing and Numerical Analysis seminar, Cornell University

The Effect of Progenitor Rotation on SASI in Core-Collapse Supernovae (Poster): August 1, 2012

Summer Undergraduate Research Symposium, North Carolina State University

Teaching Experience (Cornell University)

Head TA, MATH 2930: Differential Equations for Engineers, Spring 2019

Head TA, MATH 2930: Differential Equations for Engineers, Fall 2017

Instructor, MATH 1110: Calculus I, Spring 2017

Head TA, MATH 2930: Differential Equations for Engineers, Fall 2016

TA, MATH 2930: Differential Equations for Engineers, Spring 2016

Grader, MATH 4250: Differential Equations and Numerical Analysis, Fall 2015