

Elliot Cartee

Cornell University
Department of Mathematics
Ithaca, NY 14853
✉ evc34@cornell.edu
📁 pi.math.cornell.edu/~cartee

Education

- 2014–Present **P.h.D., Mathematics**, *Cornell University*, Expected graduation date: May 2020.
2014–2017 **M.S., Mathematics**, *Cornell University*.
2011–2014 **B.A., Mathematics**, *Cornell University*.

Awards

- 2018-2019 Robert J. Bättig Graduate Prize for Excellent Achievements in Research
2011-2014 Pauline and Irving Tanner Dean's Scholar

Research Experience

- 2014–Present **Cornell University**, *Graduate Student*, Advisor: Alexander Vladimirsky.
Department of Mathematics
Fall 2018 **Princeton University**, *Visiting Student Research Collaborator*.
Operations Research and Financial Engineering

Publications

- E. Cartee and A. Vladimirsky**, *Control-theoretic models of environmental crime*, submitted to SIAM Journal on Applied Mathematics.
E. Cartee, L. Lai, Q. Song, and A. Vladimirsky, *Time-dependent surveillance-evasion games*, accepted for publication by IEEE CDC 2019.
E. Cartee and A. Vladimirsky, *Anisotropic challenges in pedestrian flow modeling*, *Communications in Mathematical Sciences*, 16(4), 1067-1093 (2018).
L. N. Virgin, R. Plaut, and E. Cartee, *The effect of gravity on a slender loop structure*, *Nonlinear Dynamics*, Volume 1 (pp. 185-190). Springer, Cham (2016).
L. N. Virgin, R. Plaut, and E. Cartee, *Adjacent equilibria in highly flexible upright loop on rigid foundation*, *Experimental Mechanics*, 55(6), 1191-1197 (2015).
S. Khan, J. Johnson, E. Cartee, and Y. Yao, *Global regularity of chemotaxis equations with advection*, *Involve, a Journal of Mathematics*, 9(1), 119-131 (2015).

Presentations

Upcoming Presentations

- October 7th **Control-Theoretic Models of Environmental Crime (Poster)**, *3rd AFOSR Workshop on Computational Control*, Monterey, CA.
Oct. 18-20th **Control-Theoretic Models of Environmental Crime**, *Doctoral Consortium on Computational Sustainability*, Carnegie Mellon University.

- October 22nd **Modeling Environmental Crime in the Presence of Ground Patrols (Poster)**, *NSF Algorithms for Threat Detection Workshop*, George Washington University.
- Dec. 11-13th **Time-dependent Surveillance-Evasion Games**, *IEEE Conference on Decision and Control 2019*, Nice, France.

Past Presentations

- Sept. 2019 **Control-Theoretic Models of Environmental Crime**, *Scientific Computing and Numerical Analysis seminar*, Cornell University.
- July 2019 **Surveillance-Evasion Mean Field Games**, *International Congress on Industrial and Applied Mathematics*, Valencia, Spain.
- April 2019 **Time-dependent Surveillance-Evasion Games**, *Applied Math Days 2019*, Rensselaer Polytechnic Institute.
- March 2019 **Anisotropic Interactions in Pedestrian Flow Modeling**, *New York State Regional Graduate Mathematics Conference*, Syracuse University.
- October 2018 **Surveillance-Evasion Mean Field Games**, *NSF Algorithms for Threat Detection Workshop*, American University.
- August 2017 **Anisotropic Challenges in Pedestrian Flow Modeling**, *Mean Field Games Workshop*, UCLA (IPAM).
- April 2015 **Models of Pedestrian Flow**, *Scientific Computing and Numerical Analysis seminar*, Cornell University.

Teaching Experience

Cornell University

- Fall 2019 **Head TA**, *MATH 2940: Linear Algebra for Engineers*.
- Spring 2019 **Head TA**, *MATH 2930: Differential Equations for Engineers*.
- Summer 2018 **REU Graduate Student Mentor**.
- Fall 2017 **Head TA**, *MATH 2930: Differential Equations for Engineers*.
- Spring 2017 **Instructor**, *MATH 1110: Calculus I*.
- Fall 2016 **Head TA**, *MATH 2930: Differential Equations for Engineers*.
- Spring 2016 **TA**, *MATH 2930: Differential Equations for Engineers*.
- Fall 2015 **Grader**, *MATH 4250: Differential Equations and Numerical Analysis*.