Osman Chaudhary (857) 234 - 9307 illesial@gmail.com

illesial.github.io

Education:

- **Ph.D**., Mathematics, Boston University, May 2017.
  - Advisor: C. Eugene Wayne.
  - Thesis title: “Rigorous Justification of Taylor Dispersion via Center Manifold Theory.”
- **B.S**, Mathematics, Millersville University, May 2010.

Quantitative Research Experience:

- **Data Science and Predictive Analytics** for a winning New York State Senate campaign. Contributions include data scraping, cleaning, modeling, analysis and visualization using Python tools such as pandas, numpy, BeautifulSoup, scikit-learn, geopandas, and more. Subsequent post-election work in electoral district analysis. July 2018 through present.
- **Mathematics research** at Boston University and Millersville University in applying dynamical systems techniques to problems in a variety of fields including fluid mechanics, mathematical biology, and celestial mechanics. Contributions to the literature include linear- and non-linear dimension reduction techniques reminiscent of Principal Components Analysis and Manifold Learning – Fall 2009 through present

Selected Publications:

- Margaret Beck, Osman Chaudhary, and Gene Wayne. Rigorous Justification of Taylor Dispersion via Center Manifolds and Hypocoercivity (to appear, 2019).
- Margaret Beck, Osman Chaudhary, and Gene Wayne. Analysis of Enhanced diffusion in Taylor dispersion via a model problem. Fields Institute Communications, Hamiltonian Partial Differential Equations and Applications. Springer-Verlag, New York (2015).
- Ed Reznik, Osman Chaudhary, and Alex Watson. The Stubborn Roots of Metabolic Cycles. Journal of the Royal Society Interface (2013), volume 10 no. 83.

Employment:

- **Instructor / Tutor**, Multiple Agencies: Five Points Learning, Gaver & Magariel LLC, and Wallace Tutors. September 2018 to present. Teaching and tutoring individuals and classes in a wide range of mathematics topics including SHSAT and SAT test prep, Calculus, Statistics, Linear and Abstract Algebra.
- **Math Teacher**, Pikesville High School, Baltimore County Public Schools – Fall 2017 to June 2018. Responsibilities included lead-teaching and co-teaching mathematics for grades 9 – 12 in a wide variety of classroom environments and class sizes. Math club advisor.
- **Lecturer**, Boston University – Summer 2018, 2017, 2016, 2015, 2013, and 2011 for Differential Equations and Multivariable Calculus
- **Teaching Fellow**, Boston University – Fall 2010 – Spring 2012, Fall 2013, Spring 2016 - Spring 2017
  Responsibilities include leading discussions, grading, and teaching for Calculus I, II, and Differential Equations, and tutoring for all subjects