

## CAREY CAGINALP

### EDUCATION

#### **UNDERGRADUATE – UNIVERSITY OF PITTSBURGH, B. PHIL. SUMMA CUM LAUDE, HONORS MATHEMATICS, 2009-11**

The B. Phil. degree entails a rigorous program of study beyond the B. Sc. and a thesis that is approved by a committee that includes an external member. I also took numerous physics classes and graduate math courses including: Real and Complex Analysis and Linear Algebra.

Physics courses included:

- Modern Physics I and II
- Quantum Mechanics I and II
- Thermodynamics

Part of my B-Phil Thesis involved programming in Matlab and I am learning Python and C++.

#### **GRADUATE – BROWN UNIVERSITY – M.SC., APPLIED MATH, 2014 & PH.D., APPLIED MATH, 2017**

Graduate coursework included:

- Real Analysis
- Functional Analysis
- Complex Analysis
- Graduate Linear Algebra
- Partial Differential Equations (Elliptic, Parabolic, Hyperbolic, Conservation Laws, Galerkin Theory, Harmonic Analysis)
- Ordinary Differential Equations, Dynamical Systems
- Calculus of Variations
- Kinetic Theory
- Probability courses
- Thermodynamics and Statistical Mechanics

Areas of Preliminary Examination were: Partial Differential Equations (Elliptic, Parabolic, Hyperbolic, and Variational Methods), Probability, Real and Functional Analysis, Thermodynamics and Statistical Mechanics.

---

### AWARDS & HONORS

#### **CULVER PRIZE, DEPARTMENT OF MATHEMATICS, UNIVERSITY OF PITTSBURGH - 2010**

Award given to juniors or seniors for exceptional achievement in undergraduate study.

#### **BRACKENRIDGE FELLOWSHIP FOR RESEARCH**

Summer support for collaborative research with a professor.

#### **NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOW - 2011**

Three-year fellowship given to seniors and first year graduate students – received as a senior.

#### **BROWN UNIVERSITY GRADUATE RESEARCH FELLOWSHIP 2015, 2016**

TEACHING  
AND  
RESEARCH  
/EMPLOYM  
ENT

TEACHING ASSISTANT 2013-14, BROWN UNIVERSITY  
INSTRUCTOR, FALL 2017, CARNEGIE MELLON UNIVERSITY  
VISITING SCHOLAR, UNIVERSITY OF PITTSBURGH, MATHEMATICS DEPARTMENT MAY 31, 2017  
– AUGUST 31, 2018  
RESEARCH ASSOCIATE, UNIVERSITY OF PITTSBURGH, SEPTEMBER 2018 – PRESENT  
VISTING AFFILIATED SCHOLAR, ECONOMIC SCIENCE INSTITUTE, CHAPMAN UNIVERSITY, MARCH  
3, 2018 – PRESENT  
RESEARCH SCIENTIST, NOVATEUR RESEARCH SOLUTIONS, SEPTEMBER 2018 - PRESENT

---

JOURNALS  
AND  
REFEREED  
PAPERS

EDITOR, INTERNATIONAL JOURNAL OF SCIENCE, TECHNOLOGY, AND SOCIETY  
REVIEWED PAPERS FOR ROYAL SOCIETY OPEN SCIENCE AND PHYSICA A

---

INVITED  
LECTURES

- Asymptotic Analysis: Escape Through a Narrow Gate – Brackenridge Fellow Presentation - University of Pittsburgh, June 10, 2010. [Program](#)
  - Asymptotics and Computation on Brownian Motion - SIAM Annual Meeting, Pittsburgh, PA, July 2010. [Abstract](#)
  - Analytical and Numerical Results for Brownian Motion Through a Material, Workshop on Modeling of Materials with Fine Structure, Carnegie-Mellon University, May 2011. [Abstract](#)
  - Analytical and Numerical Results on Escape of Brownian particles - The 9th AIMS Conference on Dynamical Systems - Orlando, FL, July 2012. [Abstract](#)
  - Effects of White Noise in Multistable Dynamics in Differential Equations - AMS Sectional Meeting Special Session, Georgetown Univ, Washington, DC, March 7-8, 2015. [Abstract](#)
  - Propagation of Special Initial Data Through Burgers' Equation - Joint Dynamics and PDE Seminar – Brown University, April 25, 2016. [Abstract](#)
  - Effects of White Noise in Multistable Dynamics, Am. Inst. of Mathematics 11th Int. Conf on Dynamical Systems, Orlando, FL, July 1-5, 2016. [Abstract](#)
  - Conservation Laws, Shocks, and Random Initial Conditions, Carnegie Mellon University, September 19, 2017.
  - Conservation Laws, Shocks, and Random Initial Conditions, Ohio State University, October 19, 2017.
  - Supply, Demand, Volatility, and Fat Tails, Department of Mathematics, Physics, and Computation, Chapman University, March 9, 2018.
  - Shocks and Conservation Laws with Random Initial Conditions. Shanks Workshop on Mathematical Aspects of Fluid Dynamics, Vanderbilt University, March 24-25, 2018.
  - **Session Chair** and Speaker for “Theory of Hyperbolic Conservation Laws” session at the 17<sup>th</sup> International Conference on Hyperbolic Problems, Theory, Numerics, Applications, June 25-29, 2018.
  - A Dynamical Systems Approach to Cryptocurrency, Economics Science Institute, Chapman University, August 22, 2018.
  - **Special Session Organizer and Speaker** for “Special Session on Stochastic Differential Equations,” Joint Mathematics Meetings of the American Mathematical Society, January 16-19, 2019.
-