

# CATHAL COONEY

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## OBJECTIVE

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I am a doctoral candidate in Mathematical Neuroscience, and I achieved a First-class degree and Masters in Pure Mathematics. I have gained much experience in mathematical modelling through my doctoral studies. My skill-set would be very well suited to research and analysis positions.

## SKILLS

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<b>Computer Languages</b>	Python, C++, C, AWK, Bash
<b>Word Processing</b>	Advanced Pitman qualification
<b>Languages</b>	English (native), German (basic), French (basic), Irish (conversational).

## CURRENT EDUCATION

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<b>Trinity College Dublin</b> <i>Ph.D. in Mathematics</i>	2009 - present
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- Thesis title: Spike-Train Analysis. Submitted, 20th February 2015.
- Passed *viva voce* with minor corrections, 2nd April 2015.
- Work involves writing code in Python and C++ to analyse neuronal responses (spike-trains).
- Studying Mathematical Neuroscience as part of the Mathematical Neuroscience Lab in the School of Maths, under the supervision of Dr. Conor Houghton, since January 2011.
- School of Maths postgraduate representative, December 2010 - September 2012.
- Previously supervised by Dr. Dmitri Zaitsev in the study of CR Geometry from October 2009 to December 2010.

## PREVIOUS EDUCATION

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<b>University of Cambridge</b> <i>M.A.St. in Mathematics</i>	2008 - 2009
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- Subjects studied: Commutative Algebra, Category Theory, Elliptic Curves, Algebraic Geometry, Lie Algebra Representations, Complex Manifolds.
- Awarded bursary (monetary prize) from Cambridge European Trust.

<b>Trinity College Dublin</b> <i>B.A. in Mathematics</i>	2004 - 2008
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- First Class Honours degree - equivalent GPA 3.90.
- Awarded Gold Medal of Trinity College for moderatorship exams (*summa cum laude*), 2008.
- Sophister (upper-division) courses included Modern Algebra, Group Representation, Partial Differential Equations, Complex Analysis, Functional Analysis.
- Awarded Lloyd Exhibition for Junior Sophister (Junior) results, 2007.
- Awarded Scholarship of Trinity College Dublin, 2006.

*The Foundation Scholarship of Trinity College Dublin is awarded to the highest achieving students in their respective disciplines. Owing to their demonstration of academic excellence, Scholars receive free room and board for five years, during which time tuition is sponsored by the college. Notable Scholars include Samuel Beckett, former President Mary Robinson, Ernest Walton and George Berkeley.*

- Awarded Arthur Lyster Prize for Senior Freshman (Sophomore) results, 2006.
- Awarded Entrance Exhibition for excellent Leaving Certificate results, 2004.

## WORK EXPERIENCE

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### **School of Maths, Trinity College Dublin**

2009 - present

#### *Teaching Assistant*

- Teaching assistant across a variety of different subjects taught to Junior and Senior Freshman students.
- Subjects taught: Real Analysis (5 semesters), Linear Algebra (2 semesters), Group Theory (1 semester), Multivariate Calculus (2 semesters).
- Taught Problem Solving tutorials for Junior Freshman students from October 2009 until April 2012; the course formed an introduction to abstract mathematics such as Linear Algebra, Real Analysis and Group Theory.

### **Exams Office, Trinity College Dublin**

Summer 2011 - present

#### *Invigilator (Exam Proctor)*

- Provided supervision for undergraduate and postgraduate annual examinations.
- Promoted to Chief/Special Invigilator in 2012 - added responsibilities, including training junior invigilators.
- Promoted to Senior Chief Invigilator in 2013 - in charge of all aspects of a large examination venue (over 100 students).

### **Betswitch**

Summer 2008

#### *Mathematical consultant*

*Dublin*

- Betswitch was a small private company which traded on the Horse Racing markets on Betfair.
- Worked as a consultant investigating trends in Betfair markets.

### **Hibernian (Aviva)**

Summer 2007

#### *Management Accounts*

*Dublin*

- Hibernian (Aviva) is the largest insurance company in Ireland.
- Temporary replacement for employee on leave.
- Produced reports for insurance and mortgage portfolios.

## INTERESTS

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### **Sports**

Rugby, Rowing, Golf, Tennis, Croquet.

### **Societies**

Mathematical Society Librarian (06/07) & Quizmaster (07/08).

### **Music**

Singing, guitar, piano.

References available on request.