

# Ciarán Kenny



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## Profile

As of 2022, I am an online educator for Junior Certificate and Leaving Certificate students on three self-created websites, namely [A.M. Online](#), [L.C. Maths](#) and [Junior Maths](#). Prior to this, I enrolled in a PGCE course at the University of Leicester in *Physics with Mathematics* as well as recently completing a PhD in theoretical astrophysics. My primary research area during my PhD was in modelling the acceleration of cosmic rays in the heliosphere. In particular, I both analytically and numerically solved the relevant transport equation for suprathermal particles obtained via quasi-linear theory under a “pressure balance” condition.

Date of Birth: 17th July 1988  
Nationality: Irish  
Born: Dublin, Ireland

## Education

**PGCE (PHYSICS WITH MATHEMATICS), UNIVERSITY OF LEICESTER** **2016-2017**

I undertook a *Postgraduate Certificate in Education* (PGCE) course which included ten-week placements at *Rawlins Academy, South Wigston High School* and *Wyggeston & Queen Elizabeth I College*. This gave me the opportunity to both improve on my previous teaching experience in Ireland as well as adapt my skills to the English national curriculum.

**PhD (THEORETICAL ASTROPHYSICS), UNIVERSITY COLLEGE DUBLIN** **2010-2015**

Studying under Professor Peter Duffy, I investigated the acceleration of particles in the presence of large-scale compressible turbulence and compared the resulting spectra to the universal suprathermal tails observed experimentally. [[Research Summary](#)]

**BSc Hon. (THEORETICAL PHYSICS), UNIVERSITY COLLEGE DUBLIN** **2005-2009**

During my degree, I took modules across a broad range of topics including astrophysics, computational physics, general relativity, fluid dynamics, computer programming, quantum physics, electromagnetism, particle physics and mathematical modelling. I was awarded a First Class Honours with a final GPA of 4.12 (highest GPA = 4.2), the highest GPA of UCD science graduates that year. [[Academic transcript](#)]

**LEAVING CERTIFICATE, DUBLIN** **2000-2005**

Honour grades obtained in eight subjects including physics, mathematics, applied mathematics and accountancy, achieving the highest points at my school for that year.

## Select Publications

### **Note-Taking Booklet for MCAT ACE Preparation Course**

Ciarán Kenny and Sepehr Bahadorani (2021) ISBN: 9798657761894

### **Charge Exchange Losses and Stochastic Acceleration in the Solar Wind**

Ciarán Kenny and Peter Duffy (2017) [[arXiv](#)][[pdf](#)]

### **(Thesis) The Transport of Energetic Particles in the Heliosphere and the Local Interstellar Medium**

Ciarán Kenny (2015) [[pdf](#)]

## Academic Awards

- Irish Research Council for Science Engineering and Technology Postgraduate Research Scholarship.
- Institute of Physics Teacher Training Scholarship.
- End of year scholarships for obtaining the highest grades in Theoretical Physics during my undergraduate degree.

## Teaching Experience

### ONLINE EDUCATOR

2017-PRESENT

Currently, I am the online educator, website designer, animator and content creator for [A.M. Online](#), [L.C. Maths](#) and [Junior Maths](#), websites devoted to teaching Leaving Certificate Applied Maths, Leaving Certificate Maths and Junior Certificate Maths respectively. The creation of these websites involved a broad understanding of many programming languages as well as knowledge of various illustration and animation software.

Prior to this, I had a similar role in teaching the *Medical College Admissions Test* (MCAT) to students in the USA.

### OCCASIONAL LECTURER, UNIVERSITY COLLEGE DUBLIN

2010-2015

During my PhD, I sporadically undertook a lecturing role in various modules across physics. This involved preparing and giving lectures, correcting homework and class tests and aiding students with any difficulties that they may be having in each respective module.

### SECONDARY SCHOOL TEACHER, ST. CONLETH'S COLLEGE, BALLSBRIDGE, DUBLIN

2013-2015

I undertook teaching roles across all age ranges, primarily teaching the subjects of mathematics and applied mathematics. This involved preparing and giving classes and writing in-class and final exams.

### TUTOR & LABORATORY DEMONSTRATOR, UNIVERSITY COLLEGE DUBLIN

2010-2015

I served as the primary tutor for various modules throughout my PhD, including modules in astrophysics, thermodynamics, mechanics, computational physics and mathematics. This involved preparing relevant tutorial problems, giving tutorials in a lecture theater setting, as well as interacting with students by answering any relevant questions that they may have.

I also acted as the primary lab demonstrator in both the third year and fourth year physics undergraduate laboratories. This involved giving classes on programming languages that needed to be used in certain experiments, helping students if they were unable to get their apparatus to work, and generally aiding them with any questions that they may have.

## Additional Experience

- I am proficient in many programming languages, including MATLAB, JavaScript, HTML, CSS, Python, C++, PHP and LaTeX, all of which I have used throughout both my education and career. I have also completed various MOOCs in my spare time in order to understand the basics of other programming languages, including Julia and Ruby.
- During the summers of 2015 and 2016, I was the primary tutor, lab demonstrator and occasional lecturer for the University College Dublin Physics Summer School, a program dedicated to teaching American medical students an introductory physics course over an eight-week period.
- During the summer of 2010, I attended the *Culham Plasma Physics Summer School* in Oxfordshire, UK, where I attended lectures and took part in workshops.
- During the summer of 2008, I undertook a 6-week internship at CERN, Switzerland. This involved attending various lectures as well as assisting with the first inaugural tests of the LHC.

## Hobbies & Interests

- I am an avid hiker and traveler, having completed many long-distance hikes across Europe and elsewhere. In particular, I have completed 20+ *Camino de Santiago* hikes across Spain, Portugal and France. In doing so, I have accomplished various feats that I am personally proud of, including hiking more than 120 km in a single day on multiple occasions.
- I enjoy partaking in extreme sports and activities, including skydiving, bungee jumping, bouldering, hang gliding and paragliding. I relish the opportunity to try any new activity when the opportunity presents itself.

**References available upon request.**