

Andrea Di Biagio

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Education

2018-Current **“La Sapienza” University of Rome**
PhD Physics

2014 - 2016 **Imperial College London**
MSc Applied Mathematics

- Distinction 72%
- Project: Asymptotic Self Similarity in the Mandelbrot Set
 - Supervisor: Dr Trevor Clarke
 - I reviewed the complex analysis, topology and dynamical systems theory needed to prove that the Mandelbrot set is asymptotically self-similar around certain parameters.

2010 - 2013 **Imperial College London**
MSci Physics with Theoretical Physics

- First Class Honours 83.5%
- Project: Spacetime from Causal Structure
 - Supervisor: Prof Fay Dowker; collaborator: Jack Jelfs.
 - Constructed a proof that the causal structure of Minkowski spacetime is sufficient to define the metric up to a global conformal scale factor.
 - Investigated a candidate for a distance function on causal measure spaces, a category that contains Lorentzian manifolds as well as discrete partially ordered sets. This function could have represented how a discrete causal set approximates a smooth manifold.
- Prizes:
 - 2013 Ken Allen Prize for academic excellence to undergraduate Physics students.
 - 2011 Gloucester Research Ltd Prize for academic excellence to non-final year students in Mathematics, Computing and Physics.

2009 - 2010 **King's College London**
BSc Physics (Year 1)

- Year average 89%
- Prizes:
 - Dillon prize for best grade in the first year Physics examinations.
 - Wilkins prize for best grade in the first year laboratories.

1997 - 2009: **Lycée Chateaubriand de Rome**
Baccalauréat Général Scientifique

Languages

Human

Italian

native

English

native

French

native

Spanish

intermediate

Scientific Computation

2019 **NAND to Tetris part I Online Course**

2017 **Stanford University Machine Learning Online Course**

2017 **Udacity Deep Learning NanoDegree**

Python's numerical suite NumPy, pandas, Jupyter notebooks, TensorFlow.
fluent

Mathematica

fluent

GNU Octave, MATLAB

intermediate

C/C++

Intermediate

Text and Typeset

LaTeX

fluent

Markdown

fluent

Office Packages

fluent (Apple&Microsoft)

HTML, CSS

basics

Teamwork

2014- 2015 **Imperial College Environmental Society**

Vice President

- Coordinated and facilitated meetings of a dozen Imperial students to:
 - Engage student body on issues about global warming and recycling,
 - Maintain an organic vegetable plot and beehives on campus.
- Took part in the planning and coordination of a 500+ people demonstration.
- Spoke to university staff as well as the student union to obtain funding.

2012-2013 **Imperial College Project Nepal**

Senior Team member

- Collected funds to build two classrooms in a rural village in the Kaski district of Nepal.
- While we spent a full month in the village I:
 - Taught English as a second language to 8th grade students,
 - Supervised and participated in the construction of the classrooms,
 - Naturally took the role of spokesperson with the local community,
 - Made sure the other, younger, team members were safe and enjoying their experience.

Fall 2012 **Research Interfaces**

Team member

- As a team, we imagined a startup based on a biodegradable sensor for use in agriculture.
- Learned about the IP aspects of such a startup,
- Prepared the funding and financial plans,
- Prepared and delivered the startup elevator pitch.

Contemplative Practices

In the year between my degrees, I immersed myself in two contemplative spiritual traditions. I have learned valuable lessons on mental and emotional balance, as well as gaining insight in both eastern and western theories of mind.

February 2014 **Sarnath Thai Monastery**
Thai Vipassana Retreat

June 2014 **Tushita Meditation Centre**
Introduction to Buddhism

2013 - 2015 **Shri K Pattabhi Jois Ashtanga Yoga Institute**
Traditional ashtanga yoga apprenticeship

Gardening, Agriculture and Botany

I have an interest in sustainable and low impact practices. I find plants beautiful and mysterious in their appearance, adaptations and rhythms. I enjoy the communal as well as meditative aspects of the work.

Spring 2017 **Giardino di Revello**

- Apprenticeship under renowned landscape architect Paolo Pejrone.

Fall 2016 **Schumacher College**

- Volunteer in harvest and planting of the vegetable plot in the alternative education college, planting of the food forest.

April 2015 **Podere Collistanza**

- Volunteer in the Fukuoka inspired sustenance plot of the funders of WOOF Italy.

April 2014 **Nepal Permaculture Coffee Plantation**

- Volunteer during coffee bean harvest.

Other

Diving

- PADI Open Water certification at 12,
- PADI Rescue Diver certification in 2018,
- Amateur free diver.
- Underwater photography and filmmaking:
 - Set up a VR rig to film schools of hammerhead sharks in Cocos Island National Park in Costa Rica for the promotional material of the upcoming documentary Sharkwater Extinction.

Activities

- Rock climbing,
- Analog photography,
- Plant-based cooking.

Interests

- logic, foundations of mathematics,
- history of science and mathematics,
- religion and philosophy,
- sci-fi.

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