

# Marco Del Tutto

## Curriculum Vitae

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### Personal information

First, Last Name Marco, Del Tutto  
Place and date of birth Rome (Italy), 30 October 1991. Age: 26  
Nationality Italian

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### Education

- 2015 – present **Reading for a PhD in Particle Physics at the University of Oxford, UK.**  
*Research work:* I am currently the leader of the main analyses of MicroBooNE, a neutrino experiment at Fermilab (U.S.A.). I am working on measuring the neutrino interaction probability with the liquid argon in our detector.  
*Web-page:* [www2.physics.ox.ac.uk/contacts/people/deltutto](http://www2.physics.ox.ac.uk/contacts/people/deltutto)  
*Advisor:* Prof. Roxanne Guenette, Prof. Giles Barr
- 2013 – 2015 **Master's Degree in Physics *cum laude* at the University of Rome "Sapienza".**  
*Title of the thesis:* Neutrino Beam Simulations and Data Checks for the NO $\nu$ A Experiment.  
The thesis work has been done at the Fermi National Accelerator Laboratory (Fermilab, Batavia, IL, USA) from March to September 2015.  
*Score:* 110/110 *cum laude*
- 2010 – 2013 **Bachelor's Degree in Physics *cum laude* at the University of Rome "Sapienza".**  
*Title of the thesis:* Onde gravitazionali da sistemi binari di pulsar (Gravitational waves from binary pulsars systems).  
*Score:* 110/110 *cum laude*

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### Awards

- 2016 **Donald H. Perkins Prize.**  
I was awarded this prize for outstanding performance in the first year of postgraduate study at the University of Oxford.
- 2016 **1<sup>st</sup> Prize Particle Physics Art Competition.**  
I was awarded this prize during the Particle Physics Art Competition at the University of Oxford. The goal of this art competition is to realize artworks that relate to particle physics.
- 2015 **ARAP Prize in Experimental Particle Physics.**  
The Roman Astro-Particle Association (ARAP) promotes a prize in experimental particle physics designed to reward Master's degree deserving students in particle physics.

2014 **Summer Student at Fermilab.**

During August and September 2014 I worked on a research project at the Fermi National Accelerator Laboratory (Fermilab) as a summer intern. Admission to this summer internship is on a highly competitive basis. Participants are selected on the basis of their academic achievement, average score in the exams, and their suitability for the program, as determined by an interview.

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## Teaching Experience

2018 **Teacher at the first Oxford Virtual and Augmented Reality Summer School.**

I taught at the first Oxford Virtual and Augmented Reality Summer School. I led a group of student in the making of their first Virtual Reality application.

2017 **High Energy Physics Lab. Demonstrator at the University of Oxford.**

I was a demonstrator at the particle physics lab. in Oxford.

2017 **Supervision to Oxford Summer Students.**

I supervised one student for the whole summer both in Oxford and at Fermilab.

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## Conferences and Talks

2018 **GDR Neutrino Meeting.**

Invited Talk on *VENu: The Virtual Environment for Neutrinos*

Slides: <https://indico.in2p3.fr/event/17494/>

2018 **Neutrino2018.**

Poster on *First Muon Neutrino Charged-Current Inclusive Cross Section Measurement in MicroBooNE*

Proceedings: <https://doi.org/10.5281/zenodo.1300795>

2018 **Nu-Print, Neutrino Cross Section Strategy Workshop.**

Invited Talk on *MicroBooNE Future Cross Section Measurements and Capabilities*

Slides: <https://indico.fnal.gov/event/15849/session/3/contribution/13>

2017 **NUFACT2017.**

Invited Talk on *Cross Section Prospects for MicroBooNE*

Proceedings: <https://pos.sissa.it/295/068/>

2017 **APS, Division of Particles and Fields Meeting.**

Talk on *VENu: The Virtual Environment for Neutrinos*

Proceedings: <https://arxiv.org/abs/1709.10120>

2017 **Rencontres de Moriond.**

Invited Talk on *Neutrino Interactions at MicroBooNE*

Proceedings: <https://arxiv.org/abs/1705.04894>

2016 **Neutrino2016.**

Poster on *Model Uncertainties at MicroBooNE*

Proceedings: <http://iopscience.iop.org/article/10.1088/1742-6596/888/1/012140>

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## Outreach

**VENu, Virtual Environment for Neutrinos.**

I am the main author of the *VENu* (Virtual Environment for Neutrinos). *VENu* is a mobile app which allows you to see data from the MicroBooNE experiment on your phone. It also has a 3D Virtual Reality feature the immerse the users inside the detector. Link: <http://venu.physics.ox.ac.uk>.

**Collider.**

I also worked on another mobile app to show events from the ATLAS detector at CERN, called *Collider*: <http://collider.physics.ox.ac.uk>.

2017 **Stargazing, Oxford University.**

Launched the *VENu* app.

- 2017 **Chicago Science Festival**, *Chicago*.  
Showcase of the VENu app in a Fermilab stall.
- 2017 **Oxford Garden Party**, *Oxford University*.  
Neutrino physics explained via the VENu app to Oxford visitors.

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## Journalistic Interviews

- 2017 **Podcast**, *IOP Physics World*.  
*Link:* <https://physicsworld.com/a/tracking-neutrinos-in-virtual-reality/>
- 2017 **Interview**, *International Business Times*.  
*Link:* <https://www.ibtimes.co.uk/venu-oxford-university-launches-vr-game-app-teach-people-about-neutrino-particles-1603894>
- 2017 **Interview**, *Local TV "That's Oxfordshire"*.  
*Link:* <https://www.youtube.com/watch?v=5mcDG54CZY>
- 2017 **Interview**, *Fermilab*.  
*Link:* <http://news.fnal.gov/2017/07/venu-makes-possible-watch-neutrino-hunter-work/>
- 2017 **Interview**, *Oxford*.  
*Link:* [http://www.ox.ac.uk/news/2017-01-30-find-elusive-particles-your-phone-oxford's-new-neutrino-viewer-app](http://www.ox.ac.uk/news/2017-01-30-find-elusive-particles-your-phone-oxford-s-new-neutrino-viewer-app)