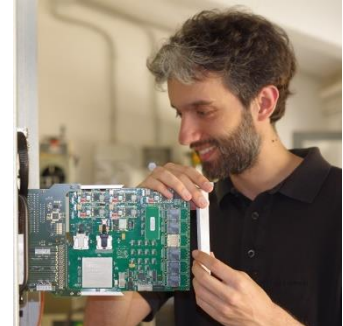


# Andrea Triossi

## Curriculum Vitae

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Mobile number: +33-07-82414059  
E-mail: [trioffi@cern.ch](mailto:trioffi@cern.ch)



## Education

### December 2019:

National Scientific qualification as associate professor in the Italian higher education system for the disciplinary field of “Experimental physics of fundamental interactions”

### March 2012:

PhD in Computer Science, University “Ca’ Foscari” of Venice, Italy.

### October 2005:

Master degree in Physics, school of Electronics and Cybernetics, at University of Padua, Italy.

## Professional Experience

### January 2019 – present:

Research engineer at CNRS. SoC designer (Zynq Ultrascale +) and PCB designer in the context of the JUNO neutrino experiment.

### August 2017 – December 2018:

Post-Doc at CIEMAT. Design of front-end and readout electronics for the CMS experience phase 2 upgrade. FPGA designer.

### August 2014 – July 2017:

CERN fellowship in the context of the CMS experiment. Design and commissioning of trigger electronics for the phase 1 upgrade of the CMS experiment. Architecture and optimization of the latency of algorithms for physics.

### August 2011 – July 2014:

Term contract with Istituto Nazionale di Fisica Nucleare (INFN) in the context of the nuclear experiments NEDA e TRACE. Development in FPGA of TDC and analog-digital converters.



**January 2009 – December 2011:**

PhD at University “Ca’ Foscari” of Venice, department of Computer Science. Title of the thesis: *“Hardware execution of Constraint Handling Rules”*.

**September 2008 – December 2008:**

Scientific collaboration with Padova University for being at CERN in the context of the CMS experiment.

**September 2006 – August 2008:**

Post graduate fellowship at INFN Padova within the CMS Italian collaboration.

**March 2006 – August 2006:**

Post graduate fellowship at INFN Padova (grant by Trastec Scpa) titled *“Radiation damage of electronic components”*.

## Awards and Grants

1. CMS Achievement Awards 2014. Nomination: “For his contribution to the DT TwinMux electronics for the Lvl1 Trigger upgrade”.
2. Doctoral Fellowship, University “Ca’ Foscari” of Venice, 2009-2011.
3. Invitation to the 8th Workshop on Constraint Handling Rules, 9-11 September 2011, GUC German University, Cairo, Egypt. Travel grant to participate to the Workshop.

## Offices

1. Electronic coordinator in the Drift Tube Operation and Executive Board of the CMS experiment at CERN. Years 2015-2016-2017-2018.
2. Person in charge for the Data Base in the context of the Drift Tube Performance and Data certification group of the CMS experiment at CERN. Years 2011-2012
3. Referee at the GE1/1 Electronics System Review, 22 January 2018, CERN, Switzerland.
4. Referee at the JUNO GCU Electronics Review, 19 April 2018, Padova, Italy.
5. Referee of several publications on the journal IEEE Transaction on Nuclear Science.

## Selected Publications

1. Triossi A. et al., The CMS Barrel Muon trigger upgrade. JOURNAL OF INSTRUMENTATION, vol. 12, ISSN: 1748-0221, doi: 10.1088/1748-0221/12/01/C01095
2. Ero J. et al., The CMS Level-1 Trigger Barrel Track Finder. JOURNAL OF INSTRUMENTATION, vol. 11, ISSN: 1748-0221, doi: 10.1088/1748-0221/11/03/C03038
3. CMS Collaboration, The CMS trigger system. JOURNAL OF INSTRUMENTATION, vol. 12, ISSN: 1748-0221, doi: 10.1088/1748-0221/12/01/P01020
4. Bellato M. et al., Sub-nanosecond clock synchronization and trigger management in the nuclear physics experiment AGATA, JOURNAL OF INSTRUMENTATION, vol. 8 (2013) P07003, doi: 10.1088/1748-0221/8/07/P07003
5. Triossi A. et al., A PCI Express optical link based on low-cost transceivers qualified for radiation hardness. JOURNAL OF INSTRUMENTATION, vol. 8, ISSN: 1748-0221, doi: 10.1088/1748-0221/8/02/C02011

6. CMS Collaboration, The performance of the CMS muon detector in proton-proton collisions at root s=7 TeV at the LHC. JOURNAL OF INSTRUMENTATION, vol. 8, ISSN: 1748-0221, doi: 10.1088/1748-0221/8/11/P11002
7. Triossi A. et al., Compiling CHR to parallel hardware, PRINCIPLES AND PRACTICE OF DECLARATIVE PROGRAMMING, ACM (2012), 173-184, doi: 10.1145/2370776.2370798
8. AGATA Collaboration, AGATA-Advanced GAMMA Tracking Array. NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT, vol. 668, p. 26-58, ISSN: 0168-9002, doi: 10.1016/j.nima.2011.11.081
9. CMS Collaboration, The CMS experiment at the CERN LHC. JOURNAL OF INSTRUMENTATION, vol. 3, ISSN: 1748-0221, doi: 10.1088/1748-0221/3/08/S08004
10. Bellato M. et al., Remoting Field Bus Control by Means of a PCI Express-based Optical Serial Link. NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH. SECTION A, ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT, Vol. 570, p. 518-524, doi: 10.1016/j.nima.2006.10.190

More than **600** papers in the **CMS** Collaboration.

**8** papers in the **AGATA** Collaboration.

**7** papers in the **NEDA** Collaboration.

**2** paper in the **WARP** Collaboration.

For an updated list of publications, please refer to my Google Scholar [profile](#).

## Participation to Organizing/Program Committees

1. Program Committee of the 11th International Workshop on Constraint Handling Rules, 18 July 2014, Vienna, Austria.
2. Organizing Committee of the GASPARD-HYDE-TRACE Workshop 2012, 29-31 October 2012, Padova, Italy

## Presentations at Conferences, Symposia and Workshops

1. 12th Workshop on Electronics for LHC and Future Experiments, 25-29 September 2006, Valencia, Spain.
2. 15th IEEE NPSS Real Time Conference 2007, 29 April - 4 May 2007, Fermilab, Illinois, USA.
3. Constraint Handling Rules Working Week 2009, 5-9 October 2009, Ulm, Germany.
4. Muon Barrel Workshop, 8-10 February 2010, CERN, Geneva.
5. 24th Workshop on Constraint Logic Programming, 14-16 September 2010, GUC German University, Cairo, Egypt.
6. GASPARD-HYDE-TRACE Workshop 2011, 11-13 July 2011, Huelva, Spain.
7. 8th Workshop on Constraint Handling Rules, 9-11 September 2011, GUC German University, Cairo, Egypt. (invited speaker)
8. Topical Workshop on Electronics for Particle Physics, 17-21 September 2012, Oxford University, UK.
9. 14th International Symposium on Principles and Practice of Declarative Programming, 19-21 September 2012, Leuven, Belgium.
10. GASPARD-HYDE-TRACE Workshop 2012, 29-31 October 2012, Padova, Italy.
11. PROMETEO Workshop on the NEDA detector: mechanical and electronic design, 8-9 November 2012, ETSE Valencia, Spain.

12. Muon DT Workshop on Upgrade, 6-7 May 2013, University of Padua, Italy.
13. Workshop on synergies between EXOGAM2, NEDA and PARIS detectors, 9-12 May 2013, Nigde University, Turkey.
14. GASPARD-HYDE-TRACE Workshop 2014, 3-5 February 2014, Paris, France.
15. International Conference in Technology and Instrumentation in Particle Physics (TIPP) 2014, 2-6 June 2014, Amsterdam, Nederland.
16. Muon Trigger Workshop, 28-29 October 2014, CERN Geneva, Switzerland.
17. Workshop CMS Italia, 17-21 November 2014, INFN Napoli, Italy.
18. DT Upgrade for Phase 2 Workshop, 25-26 November 2014, CIEMAT Madrid, Spain.
19. Workshop CMS Italia, 25-27 November 2015, INFN Pavia, Italy.
20. Muon Phase 2 Upgrade Workshop, 4-5 February 2016, CERN Geneva, Switzerland.
21. Topical Workshop on Electronics for Particle Physics, 26-30 September 2016, Karlsruhe Institute of Technology, Germany.
22. ACES 2018 - Sixth Common ATLAS CMS Electronics Workshop for LHC Upgrades, 24-26 April 2018, CERN Geneva, Switzerland.
23. Topical Workshop on Electronics for Particle Physics, 17-21 September 2018, KU Leuven, Antwerp, Belgium.
24. Topical Workshop on Electronics for Particle Physics, 2-6 September 2019, Universitade de Santiago de Compostela, Spain.

## Teaching and Students Supervised

1. Teaching Assistant of the course *Mathematical Analysis*. Bachelor degree in Computer Science, University "Ca' Foscari" of Venice, Italy. Academic year 2010-2011. 30 hours.
2. Wen Wei Wong, Malaysian master student, internship at CERN, June-July 2015.
3. Lauri Hämarik, Estonian master student, internship at CERN, July-August 2015.
4. Konstantin Shibin, Estonian PhD student, internship at CERN, July-August 2016.
5. Giovanni Mocellin, Italian master student, internship at CERN, July-August 2017.
6. Yuya Mino, Japanese master student, internship at CERN, June-August 2018.

## Postgraduate Courses

1. Distributed Systems: Theories into Practice, Dr. Nabendu Chaki, University of Calcutta, January 2009.
2. Bertinoro International Spring School, 2-13 March 2009, Bertinoro, Forlì, Italy.
3. Proof systems for linear, intuitionistic, and classical logics, Prof. Dale Miller, École Polytechnique, Paris, April 2009.
4. Rule-Based Programming and CHR, Prof. Thom Frühwirth, University of Ulm, 8-12 May 2009.
5. Lectures on Ruby, Dr. Birgit Wendholt, Hamburg University of Applied Sciences, Germany, 29-30 April 2010.
6. From Mobility Data Management to Location-based Services, Prof. Yannis Theodoridis, University of Piraeus, Greece, 14-18 June 2010.
7. IV National School "Detectors and Electronics for High Energy Physics, Astrophysics, Space Applications and Medical Physics ", INFN Legnaro National Laboratory, Italy, 11-15 April 2011.
8. Altium Designer: Group Consulting, CERN Geneva, Switzerland, 13-14 December 2017.
9. Sigrity PowerDC and OptimizePI, Cadence, Velizy, France, 18-19 June 2019.
10. Sigrity SystemSI for Parallel Bus and Serial Link Analysis, Cadence, Velizy, 20-21 June 2019.

11. Optimized design of digital systems. IN2P3 Paris, France, 18-22 December 2019.

## Language skills

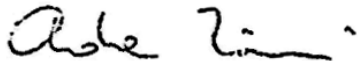
1. Italian: native speaker
2. English: fluent
3. French: proficient
4. Chinese: basic knowledge

## Computer skills

1. Programming languages: VHDL, Verilog, C/C++, Python, AVR, Prolog, CHR, LabView
2. Software suits: Xilinx ISE, Xilinx Vivado et SDK, Microsemi Libero, Altera Quartus, Altium, Cadence Allegro, Ansys, PTC mathcad
3. Operating systems: Linux, Windows, OSX

Strasbourg, 15 April 2020

Andrea Triossi

A handwritten signature in black ink, appearing to read 'Andrea Triossi', written in a cursive style.