CURRICULUM VITAE
ANDREA GIAMMANCO

Personal and Contact Informations

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- Languages: Italian (native), French, English

Contents

1 Education, Employment and Positions

- Oct.2023-. . . , UCLouvain, Louvain-la-Neuve, Belgium: Research Director (*Directeur de Recherches*) at FNRS, Belgium
- Oct.2019-Sep.2023, UCLouvain, Louvain-la-Neuve, Belgium: Senior Staff Researcher (*Maître de Recherches*) at FNRS, Belgium
- Oct.2011-Sep.2019, UCLouvain, Louvain-la-Neuve, Belgium: Permanent Staff Researcher (*Chercheur Qualifié*) at FNRS, Belgium
  - Aug.2011-July 2015, NICPB, Tallinn, Estonia: Mobilitas Top Researcher, 20% Full-Time Equivalent
- Oct.2007-Sep.2011, UCLouvain, Louvain-la-Neuve, Belgium: Research Associate (*Chargé de Recherche*) at FNRS, Belgium
- Oct.2005-Sep.2007, UCLouvain, Louvain-la-Neuve, Belgium: Post-doc
- Jan.2004-Oct.2005, Scuola Normale Superiore, Pisa, Italy: Post-doc
- Jan.2003-Dec.2003, CERN, Switzerland: grant by Fondazione Della Riccia
- Jan.2000-Dec.2002, Scuola Normale Superiore, Pisa, Italy: PhD scholarship

  Thesis (Sep.8, 2003): *"A Measurement of the Gluon Splitting Rate into $c\bar{c}$ Pairs in Hadronic Z Decays with the ALEPH Detector"*
  Advisor: Prof. Lorenzo Foà
- July 1999, Catania University, Italy: degree in Physics (*"Laurea"*) with a final mark of 110/110 *magna cum laude*

2 Organizational Responsibilities

Convenerships in the CMS collaboration:

- 2014-2016: *Top Quark* Physics Analysis Group
- 2012-2013: *Simulations* Group [1]
- 2011: *Fast Simulation* Group
- 2008-2011: *Single Top* Sub-Group
- 2010: *Tracker Simulation* Sub-Group

Committees, Services, Departmental responsibilities:

- International (excluding CMS):
  - 2024-2025: member of the Advisory Committee of CERN Users (ACCU)
  - 2020-...: member of the Steering Board of the MODE collaboration
  - 2019-2022: coordinator of work package Muography of the Horizon2020 Research & Innovation Staff Exchange network INTENSE
  - 2017-2019: Deputy Coordinator, and Training and Events Officer [2], of the AMVA4NewPhysics European Training Network
- In the CMS Collaboration:
  - 2023-...: Deputy Team Leader for CMS-Louvain
  - 2016-2021: Member of the CMS Thesis Award Committee
    - 2019-2020: Chair of the CMS Thesis Award Committee
  - 2015-2018: member of the CMS Career Committee
  - 2012-2014: member of the CMS Publication Committee
    - 2014: Member of the Heavy Quark Physics Editorial Board [3]
    - 2012-2013: Member of the Top Physics Editorial Board
- At national (or few-nations) level:
  - 2020-...: Representative of UCL in the FNRS national doctoral school in Sciences (ED/17 - link1, link2)
  - 2018-2021: co-coordinator of work package Higgs Couplings of national project be.h (funded by the Excellence of Science programme of FNRS and FWO)
  - 2018-...: Representative of UCL in the PANDA thematic doctoral school in Physics and Astrophysics

[1] Group created in 2012 by merging the previous Fast Simulation and Full Simulation groups.

[2] The Training and Events Officer oversees the training offer to ESRs and their career development plans. He also teams up with local staffs in the beneficiary institutions and the Press Office to organize workshops and schools.

[3] Editorial Board created in 2014 by merging the previous Top Physics and Bottom Physics editorial boards. I quitted this Board upon being nominated as convener of the Top PAG. In 2022, I declined an invitation to re-join this Board and become its chair.

  - 2018-. . . : Representative of UCL in the BND Graduate School, an annual school of HEP jointly organized by a consortium of Belgian, Dutch and German universities and research institutes

- At university level:
  - UCLouvain, Louvain-la-Neuve, 2016-. . . : Representative of the Physics School in the Doctoral School board of the faculties of Sciences and Veterinary Sciences.
    - UCLouvain, Louvain-la-Neuve, 2023-. . . : Member of the PhD equivalence committee (part of the Doctoral School board) of the faculties of Sciences and Veterinary Sciences.
  - Member of the management committee of the CISM (Center for High Performance Computing and Mass Storage) at UCLouvain (2022-. . .)
  - Member of the users committee of the SMCS (Support in Methodology and Statistical Analysis) center at UCLouvain (2017-. . .)
  - Academic referent of the university / member of the board of directors of the not-for-profit organization "M.A.R.S. UCLouvain" (2018-2023)
  - UCLouvain, Louvain-la-Neuve, 2009-10, 2014-15, 2015-16, 2016-17: Responsible for the organization of seminars in particle physics and cosmology (agenda)
  - Scuola Normale Superiore, Pisa, 2001-2002: Member of the *"Consiglio del Centro di Calcolo"* (Board of the Computing Center)

Organization of **international conferences**:

- Organizer of the 22nd International Workshop on Radiation Imaging Detectors (iWoRID 2021), Ghent (Belgium), June-July 2021
  - Also convener of the *LHC* session
- Convener of the Muography session of the American Geophysical Union Fall Meeting, Washington DC (USA), Dec. 2018
  - Also organizer of the Satellite Meeting of the Muography Community running in parallel
- Convener of the three Heavy Flavours working group days of DIS 2017, Birmingham (UK), Apr. 2017
- Convener of the three Top Quark parallel sessions of LHCP 2016, Lund (Sweden), June 2016
- International Advisory Committee member of TOP2015, Ischia (Italy), Sep.2015
  - Also convener of the *Q&A* and *Perspectives* sessions
- Local organizer of TOP2010, Bruges (Belgium), June 2010
  - Also webmaster
  - Also editor of the proceedings
- Local organizer of TOP2008, Isola d'Elba (Italy), May 2008

Organization of **topical workshops and schools**:

- 4th European Workshop on Maritime Systems Resilience and Security, MARESEC 2024, Bremen, June 2024
- 2nd international workshop on cosmic-ray muography (Muography2023), Naples, June 2023
- 2nd MODE Workshop on Differentiable Programming, Kolymbari (Greece), Sep.2022
- 1st international workshop on cosmic-ray muography (Muography2021), Ghent, Nov.2021
- 1st MODE Workshop on Differentiable Programming, UCLouvain, Sep.2021
  - Also chair of "Applications in muon tomography"
- Heavy Ions and New Physics, ECT*, May 2021
- Co-organizer of "High Energy Physics and Data Analytics: A Lebanon-CMS/CERN Workshop" at the American University of Beirut (Lebanon), Jan.2020
- Member of the Scientific Advisory Committee of the "Technical Meeting on Non-destructive Testing Using Muon Radiography: Present Status and Emerging Applications" of the IAEA, Vienna (Austria), Sep.2019
- Chairing the organization of the BND School 2019, Spa (Belgium), Sep.2019
- Convener of the EU-Japan cooperation workshop, part of Muographers 2018, Tokyo (Japan), Nov.2018
- Heavy Ions and Hidden Sectors, UCLouvain, Dec.2018
- Mid-term meeting of AMVA4NewPhysics, UCLouvain, Oct.2017
- Mini-Workshop on Matrix Element Methods for Data Analysis at the LHC, Louvain-la-Neuve (Belgium), Dec.2015
- 2nd Workshop on LHC detector simulations, CERN (Switzerland), Mar.2014
- FastMC2014, 2nd international workshop / school on fast Monte Carlo for High Energy Physics, DESY Zeuthen (Germany), Jan.2014
- 1st CMS Single-Top Workshop, Naples (Italy), Dec.2013
- FastSim2013 - School and Workshop on Fast Simulation in High Energy Physics, DESY Zeuthen (Germany), Jan.2013
- 1st Workshop on LHC detector simulations, CERN (Switzerland), Oct.2011

3 Patents

- "Radiographic imaging based on detection of ionizing particles" / Eduardo Cortina Gil, Andrea Giammanco, Samip Basnet, Sophie Wuyckens. International Publication number: WO/2023/062027, Apr. 20, 2023
- "Method for the measurement of magnetic fields" / Tadahiro Kin, Eduardo Cortina Gil, Andrea Giammanco. International Publication number: WO/2023/031265, Mar. 10, 2023

4 Funding

- European funds:
  - P.I. of the UCL node (beneficiary partner) in the Horizon2020 Research & Innovation Action network SilentBorder. The UCL node is assigned a budget of € 404,000 from 2021 to 2025 to develop a parametric detector simulation and an algorithm for the automatic optimization of a detector set-up for muon tomography.
  - Principal investigator: "Mobilitas Top Researcher Grant" of the European Social Fund through the Estonian Research Council for € 479,000 from Aug.2011 to July 2015 [4]. Used to fund NICPB Tallinn members working under my responsibility at NICPB and at CERN: two post-docs (Mait Müntel and Liis Rebane), two PhD students (Andres Tiko and Marion Murumaa), two undergraduate students (Joosep Pata and Morten Piibeleht).
  - P.I. of the UCL node (beneficiary partner), and Work Package coordinator, in the Horizon2020 Research & Innovation Staff Exchange network INTENSE. The UCL node is assigned a budget of € 64,400 from 2019 to 2023 to support staff exchanges and the organization of networking and outreach events.
  - Participant for UCL (beneficiary partner) to the EU Initial Training Network *AMVA4NewPhysics* (P.I.: Tommaso Dorigo, INFN Padova); also Deputy Coordinator and Training & Events Officer of the network. The UCL node is assigned a budget of € 250,000 from 2015 to 2019 to support an Early Stage Researcher (Alessia Saggio).
  - Responsible for UCL of an Erasmus+ mobility agreement with Lebanon (American University of Beirut and Lebanese University), supporting 18 incoming undergrad internships of 2 months each, 3 incoming PhD internships of 12 months each and 2 of 2 months each, 4 months of outgoing teaching staff and 3 months of incoming staff training. Duration: 3 academic years, between 2020 and 2023.
- National funds (Belgium, Estonia):
  - Co-promotor (with F.Maltoni) of a FNRS convention for a research logistics collaborator (title: *AAA project - Automatic, Accurate and Augmented simulations for collider physics*).
  - Co-promotor (with F.Maltoni, C.Delaere and V.Lemaître) of a FNRS convention of the "Institut Interuniversitaire des Sciences Nucléaires" (title: *ASAP project - Advanced Techniques for Fast Simulation and Data Analysis in High Energy Physics*). Used to fund a post-doc (Michele Selvaggi) who collaborated with me on the DELPHES and CMS Fast Simulation projects.
  - Co-promotor (with F.Maltoni, C.Delaere, C.Duhr, O. Mattelaer, C. Degrande) of a FNRS convention of the "Institut Interuniversitaire des Sciences Nucléaires" (title: *MaxLHC*). Used to fund post-doc positions on phenomenology projects.
  - Co-promotor (with G.Bruno, C.Delaere, V.Lemaître and K.Piotrzkowski) of a FNRS convention of the "Institut Interuniversitaire des Sciences Nucléaires" (title: *Searches for Physics Beyond the Standard Model with*

[4] For more information about the Mobilitas program, see also the Mobilitas Compass 2015.

the Compact Muon Solenoid at the Large Hadron Collider) initially for € 631,200 (running budget) plus € 640,649 (personnel) from Jan.2015 to Dec.2018; extended by € 166,000 (running budget) plus € 283,800 (personnel) from Jan.2017 to Dec.2021.
Main promotor / Spokesperson since mid-2018, in which role I led the applications for the following extensions and act as their responsible since then:

  * from Jan. 2019 to Dec. 2020: € 410,000 running budget
  * from Jan. 2020 to Dec. 2022: € 155,100 personnel (1 post-doctoral position) + € 400,000 running budget
  * from Jan. 2021 to Dec. 2023: € 153,900 personnel (1 post-doctoral position) + € 69,800 running budget
  * from Jan. 2022 to Dec. 2025: € 241,393 personnel (1 post-doctoral + 1 PhD position)
  * from Jan. 2023 to Dec. 2025: € 348,168 running budget

- Co-promotor (with M.Kadastik of NICPB, Estonia, and N.De Filippis of Politecnico di Bari, Italy) of an Institutional Research Grant (IUT) of the Estonian Research Council (title: *Experimental high energy physics at the CMS experiment at LHC*) for € 1,327,800 from Jan.2014 to Dec.2019.
- Co-supervisor and Work Package coordinator in the Excellence of Science (EOS) project n.30820817 "be.h" (long name: "The Higgs boson gateway to physics beyond the Standard Model"), co-funded by FNRS and FWO (P.I.: Fabio Maltoni, UCL). The overall budget is € 3,771,532.85 and the UCL node is assigned € 1,085,458.80 from Jan.2018 to Dec.2021. Used to fund several post-docs and PhD students, two of them under my direct supervision (shared with Jorgen D'Hondt of VUB and Didar Dobur of UGent.)
- Principal Investigator of an FNRS Research Project (PDR) on Muography from Jan.2019 to Dec.2022. The overall budget is € 188,180 and covers the cost for a PhD scholarship, plus some running budget and € 27,000 for laboratory equipment.
- Principal Investigator of an FNRS Research Project (CDR) on Analysis Tools for Muon Radiography from Jan.2021 to Dec.2022. The overall budget is € 59,920 and only consists of running and support budget.

- University funds:
  - Principal investigator: "Fonds Speciaux de Recherche" of UCLouvain for € 54,750 from Oct.2023, for 24 person-months; funding part of Zahraa Daher's PhD scholarship.
  - Principal investigator: "Fonds Speciaux de Recherche" of UCLouvain for € 51,000 from Oct.2019, for 15 person-months; funding part of Ahmet Ilker Topuz's PhD scholarship.
  - Principal investigator: "Fonds Speciaux de Recherche" of UCLouvain for € 66,000 from Oct.2014, for 24 person-months; funding part of Georgios Krintiras' PhD scholarship.
  - Principal investigator: "Fonds Speciaux de Recherche" of UCLouvain for € 47,000 from Oct.2012, for 15 person-months. Initially used to fund Andrey Popov's PhD scholarship (who then immediately got the prestigious nationally-funded FRIA scholarship), then used to attract Matthias Komm (who also immediately got the FRIA scholarship), and

finally used to fund Camille Beluffi, PhD student under V.Lemaitre's responsibility, on a project of common interest on the Matrix Element Method (more information).

– Recipient (ranked 1st) of the first "IRMP: Boosting Research" seed fund (€ 10,000), assigned by the Institut de Recherche en Mathematique et Physique of UCLouvain after a selection by its independent Advisory Committee. Research project: "Machine Learning solutions for Muon Tomography".

5 Qualifications

- Habilitation as "Professore Ordinario" and "Professore Associato" in Italy (January 2014 - September 2030).
- Habilitation as *"Professeur des Universités"* and *"Maître de Conférences"* in France (February 2011 - February 2015).
- Winner of a national competition in Spain for 30 *Ramon y Cajal* positions in Physics in June 2011; best ranked among the particle physicists. Marks: 99.7/100 (79.9/80 for the CV, 19.8/20 for the research project). Turned down in favour of the FNRS position.
- Winner of a tenured researcher position at Padua University in February 2011. Turned down in favour of the FNRS position.

6 Prizes and Awards

- "Outstanding Reviewer 2022" for Machine Learning: Science and Technology (IOP Publishing).
- "Outstanding Reviewer 2020" for Machine Learning: Science and Technology (IOP Publishing).
- "Most Valued Reviewer 2010" for Physics Letters B (Elsevier).
- Selected to attend the 58th Lindau Nobel Meeting in the cathegory "young researchers" (only HEP representative from Belgium), 2008.
- Selected to attend the Erice School Theory And Experiment Heading For New Physics, 2000.
- Winner in 1995, 1996, 1997 and 1998 of a monetary prize (*"Premio di incentivazione"*) from the University of Catania. Only 2 per year were awarded in Physics.
- Finalist in 1993 of the national literary contest *"Modello Pirandello"* (Agrigento, Italy)

7 Teaching, Advising, Tutoring

Standard classroom teaching:

- 2016-17: lecturer for "Particle Physics II" at UCL Louvain-la-Neuve. (In French.)
- 2014-15 and 2015-16: lecturer for "Astrophysics and Nuclear Astrophysics" at UCL Louvain-la-Neuve. (In French.)
- 2007-08, 2008-09, and 2009-10: teaching assistant for "Particle Physics I" at UCL Louvain-la-Neuve. (In French.)
- 2004-05: teaching assistant for "Classical Mechanics" at Scuola Normale Superiore. (In Italian.)
- 2003-04 and 2004-05: teaching assistant for "Laboratory of physics I" at Scuola Normale Superiore. (In Italian.)

Other teaching:

- 2020: organizer and tutor of the "Top Physics Exercise" (a 3-days team exercise) at the CMS Data Analysis School (for CMS members; virtual because of the covid-19 crisis)
- 2013: organizer of the "School on Fast Simulations in HEP" at DESY-Zeuthen.
- 2012: organizer and tutor of the "Top Physics Exercise" (a 2-days team exercise) at the CMS Data Analysis School, at INFN Pisa (Italy). (For CMS members)
- 2001-02: series of lectures on Neural Network analysis techniques in the context of "Physics experiments III" at Pisa University; 4 dissertations were assigned, under my responsibility, on some applications of Neural Networks to particle classification in high energy physics (using ALEPH simulated data) and on financial forecasting and recognition of geometric shapes. (In Italian.)
- 2005: lecture on "Top quark physics" in the context of "Experimental Particle Physics" for graduate students at Scuola Normale Superiore. (In Italian.)

Contacted by the UCL cellule of the Board of European Students of Technology to be one of their lecturers in 2015; I had to turn down the offer because of the conflict with the LHC re-start.

Advisor or **co-advisor** of the following PhD theses:

- At UCLouvain:
  - (Ongoing: Maxime Lagrange 2021-2025, Oguz Guzel 2022-2026, Zahraa Daher 2023-2027, Sumaira Ikram 2024-2027)
  - 2019-2024: Samip Basnet, PhD thesis on "Muography: Development of a Portable Detector and Analysis of the MURAVES Data".
  - 2020-2024: Marwa Al Moussawi, PhD thesis on "Muography: using cosmic rays as an imaging tool for volcanology and cultural heritage applications".
  - 2019-2023: R. M. Ishan Darshana Gamage, PhD thesis on "Development of single gap resistive plate chamber detectors for muography".

  - 2018-2023: Tu Thong Tran, PhD thesis on "A study of top quark pairs production in association with a W boson" (cotutelle with UGent, Belgium).
  - 2018-2022: Hesham El Faham, PhD thesis on "Top quark interactions in the Standard Model Effective Field Theory" (cotutelle with VUB, Belgium).
  - 2015-2019: Georgios Krintiras, PhD thesis on "First measurements of the $t\bar{t}$ cross section in LHC pp and pPb collisions at 5.02 and 8.16 TeV and determination of the absolute luminosity in the CMS experiment".
  - 2013-2017: Matthias Komm, "Differential single-top-quark cross sections in t channel at 8 and 13 TeV with the CMS detector". Holder of a FRIA grant[5].
  - 2012-2015: Andrey Popov, PhD thesis on "Search for anomalous Higgs boson production in association with single top quarks using the CMS detector". Holder of a FRIA grant.

- Elsewhere (co-supervisions):
  - 2020-2023: Kadir Aktas, PhD thesis on "Cosmic ray tomography based object reconstruction and recognition"; at Tartu University.
  - 2020-2023: Ahmet Ilker Topuz, PhD thesis on "Quantitative and qualitative investigations for muon scattering tomography via GEANT4 simulations: a computational study"; at Tartu University (initially foreseen as a cotutelle with UCLouvain).
  - 2012-2016: Andres Tiko, PhD thesis on "Measurement of single top quark properties with the CMS detector"; at Tartu University and NICPB Tallinn.
  - 2004-2006: Leonardo Benucci, PhD thesis on "FCNC decays of the top quark"; at the University of Pisa.

Advisor or **co-advisor** of the following undergraduate theses:

- 2024: Giorgio Mauceri, MSc thesis on "Studying the identification of hadronically decaying τ leptons in the context of pileup mitigation techniques with the CMS experiment"; approved with the highest mark (110/110 cum laude) at University of Palermo (Italy). His 3-month stay at CP3 was awarded by his university.

- 2022: Zahraa Daher, MSc thesis on "Improving the PUPPI Algorithm for Pileup Mitigation with the CMS Experiment"; approved with the highest mark at Lebanese University. Her 4-month stay at CP3 was funded by Erasmus+.

- 2018: Sophie Wuyckens, MSc thesis on "Development of a compact telescope for cosmic muon flux and density measurements", approved with honors (*"Distinction"*) at UCLouvain.

- 2013: Joosep Pata, MSc thesis on "Single-top polarization in t-channel production"; approved with the highest mark at Tartu University. This work has allowed Joosep to win the first "CMS Fundamental Physics Scholarship".

[5]The FRIA scholarship is assigned to graduate students of francophone universities in Belgium. It consists of a salary and a personal research budget. Very few are assigned per year in all physics areas across Belgium.

- 2007: Sophie Brouwers, MSc thesis on "Determination of V_{tb} by measuring the single top production at LHC"; approved with the highest mark (*"La Plus Grande Distinction"*) at UCL Louvain-la-Neuve.
- 2006: Giovanni Petrucciani, MSc thesis on "Single top quark studies at LHC with the CMS detector"; 110/110 *magna cum laude* at Scuola Normale Superiore.
- 2005: Maria D'Errico, BSc thesis on "Top quark mass measurements with the CMS detector"; 110/110 *magna cum laude* at the University of Pisa.

Supervisor of the following post-doctoral researchers:

- 2024-2027: Luigi Favaro, post-doc at UCLouvain with a "IISN" fellowship.
- 2024-2027: Zak Lawrence, post-doc at UCLouvain with a "IISN" fellowship.
- 2024-2025: Samuel Bein, post-doc at UCLouvain with a "IISN" senior contract.
- 2022-2024: Vishal Kumar, post-doc at UCLouvain, initially funded the "Silent-Border" project and then "FSR fellow".
- 2022-2025: Jindrich Lidrych, post-doc at UCLouvain with a "IISN" fellowship.
- 2021-2026: Anna Benecke, post-doc at UCLouvain with a "IISN" fellowship, then (since 2023) a Research Associate ("Chargé de Recherche") of the Fonds de la Recherche Scientifique - FNRS, Belgium.
- 2020-2021: Raveendrababu Karnam, post-doc at UCLouvain with an "FSR-Incoming" fellowship.
- 2016-2021: Pieter David, post-doc at UCLouvain, initially with a "Inter-University Attraction Pole" fellowship, then (since 2018) a Research Associate ("Chargé de Recherche") of the Fonds de la Recherche Scientifique - FNRS, Belgium.
- 2016-2018: Hamed Bakshiansohi, post-doc at UCLouvain with the "Move In" Marie Curie Co-Fund.
- 2014-2017: Abideh (Nadjieh) Jafari, Research Associate ("Chargée de Recherche") of the Fonds de la Recherche Scientifique - FNRS, Belgium.
- 2012-2013: Liis Rebane, post-doc at NICPB Tallinn.
- 2011-2013: Mait Müntel, post-doc at NICPB Tallinn.

Supervisor of the following interns:

- 2024: Giorgio Mauceri from University of Palermo, 3 months.
- 2023: Khalil El Achi from American University Beirut, 2.5 months.
- 2023: Mohammad Fakhredin from American University Beirut, 2.5 months.
- 2023: Jad Saab from American University Beirut, 2.5 months.
- 2023: Aitor Orio from University of Cantabria in Santander, 1 month.
- 2023: Mariam Safielding from American University Beirut, 2 months.

- 2022: Zahraa Daher from Lebanese University, 4 months.
- 2021-2022: Hikaru Sato from Kyushu University, 6.5 months.

"CERN supervisor" of the following CERN Summer Students:

- 2013: Morten Piibeleht and Ants Remm, MVA-based identification of single top t-channel events.
- 2012: Kelvin Mei, top quark reconstruction in t-channel single-top production.
- 2012: Marion Murumaa, strategies for pileup mitigation.
- 2012: Joosep Pata, t-channel single-top cross section measurement at 8 TeV.
- 2012: Andres Tiko, multi-jet QCD as a background to t-channel single-top production.
- 2012: Marek Sirendi, trigger strategies for single top analyses.
- 2010: Andrey Popov, Bayesian Neural Network analysis of single top events.

"CERN supervisor" of the following CERN Technical Students:

- 2013: Justas Ruskys, computer-science project on track seeding in the CMS Fast Simulation; Vilnius University.
- 2013: Dimitrios Nikolopoulos, computer-science project on profiling and optimization of the CMS simulations; Athens University.

Supervisor of Joosep Pata for his CMS Fundamental Physics Scholarship in 2014, to continue working on single-top polarization [6].

Other academic roles:
As external member:

- Reader of the thesis of Altea Lorenzon, PhD thesis on "Addressing Contemporary Challenges with Muography", defended at Padua University (Italy) in 2024.
- External referee (as independent researcher from a non-Spanish Educational or Research centre) for the International Doctoral title of Clara Ramon Alvarez, PhD thesis on "Production of top quarks in association with bosons in the standard model and its extensions, in leptonic final states with the CMS detector at the LHC", defended in Oviedo (Spain) in February 2023.
- External referee (as independent researcher from a non-Spanish Educational or Research centre) for the International Doctoral title of Andrea Trapote Fernández, PhD thesis on "Study of top quark and missing energy production processes predicted by the Standard Model and its extensions in leptonic final states with the CMS detector at the LHC using machine learning techniques", defended in Oviedo (Spain) in January 2023.

[6] This scholarship was created in 2014 through a donation by former CMS spokespersons, and it is assigned every year to one promising student in the collaboration. One year later, my PhD student Andrey Popov has been short-listed too.

- Member of the thesis committee of Enrico Lusiani on "Flavor Tagging Algorithms for CP Violation Measurements in CMS", defendend at the University of Padova (Italy) in September 2023.
- Member of the thesis committee of Davide Zuliani on "Measurement of W boson production in association with jets and WW vector boson pair production at the LHCb experiment", defendend at the University of Padova (Italy) in September 2023.
- Member of the thesis committee of Amélie Cohu, PhD thesis on "Analyse structurelle et fonctionnelle par tomographie muonique d'un haut fourneau", defended at the University of Lyon (France) in September 2022.
- Reader of the thesis of Lata Panwar, PhD thesis on "Searches of Higgs boson pair production in bbbb and bb$\gamma\gamma$ final states at the Compact Muon Solenoid", defended at the Indian Institute of Science (IISc, Bangalore, India) in April 2022.
- Reader of the thesis of Benjamin Warren, MSc thesis on "A search for tWZ production in the trilepton channel using Run 2 data from the ATLAS experiment", defended at University of Cape Town (South Africa) in June 2021.
- Reader of the thesis of Guglielmo Baccani, PhD thesis on "Sviluppo, test e applicazione a casi di studio reali di una tecnica tomografica tridimensionale basata sulla radiografia muonica per trasmissione", defended at Florence University (Italy) in Feb.2021.
- External referee (as independent researcher from a non-Spanish Educational or Research centre) for the International Doctoral title of Juan Rodrigo Gonzalez Fernandez, PhD thesis on "Study of processes with a pair of top-antitop quarks and missing transverse energy in the final state in proton-proton collisions with the CMS detector at the Run 2 of the LHC", defended in Oviedo (Spain) in May 2019.
- Member of the thesis committee of Wenxing Fang, PhD thesis on "Search for new physics in dilepton final states at the CMS experiment", defended at Beihang University (China) in May 2019 and at ULB (Belgium) in June 2019.
- Member of the "comité d'accompagnement" (supervisory panel) of Mostafa Mahdavikhorrami, PhD thesis at ULB (Belgium) on off-shell Higgs measurements in CMS, 2018-2022.
- Reader of the thesis of Grzegorz Kotkowski, PhD thesis in Statistics on "Advanced Statistical Methods for Data Analysis in Particle Physics", defended in Padova (Italy) in December 2018.
- President of the thesis jury of Ignacio Lazaro Roche, PhD thesis on "Design, réalisation et test in situ d'une caméra muon pour des applications en sciences de la Terre et en génie civil", defended at the BRGM headquarters in Paris (France) in October 2018.
- Member of the thesis committee of Muhammad Gul, PhD thesis on "Search for a heavy Higgs boson decaying into a pair of top quarks with the CMS 13 TeV dataset", defended at Ghent University (Belgium) in September 2018.
- Jury member for four PhD thesis in Physics (candidates Keida Kanxheri, Roberto Leonardi, Luisa Alunni-Solestizi, Davide Chiuchiù) and one in Communication of Science (candidate Leonardo Alfonsi) defended at Perugia University (Italy) in Apr.2017.

- Member of the thesis committee of Lana Beck, PhD thesis on "The Search for the Standard Model Production of Four Top Quarks", defended at Bristol University (UK) in Jan.2017 and at VUB (Belgium) in Mar.2017.
- Reader of the thesis of Lorenzo Viliani, PhD thesis on "Measurements of the Higgs boson decay to W^+W^- with the CMS detector", defended at Florence University (Italy) in Jan.2017.
- Member of the thesis committee, and "rapporteur", of Anne-Laure Pequegnot, PhD thesis on "Search for spin-0 $t\bar{t}$ resonances and jet energy corrections", defended at Lyon University (France) in Sep.2016.
- Reader of the thesis of Francesco Michelangelo Giorgi, PhD thesis on "Measurement of the Production Cross-Section of Single Top Quarks in Association with W Bosons at ATLAS", defended at Humboldt University in Berlin (Germany) in May 2016.
- Member of the thesis committee of Mohsen Naseri, PhD thesis on "Measurement of the W boson polarization in top pair di-muon decay with the CMS detector at the LHC and R&D on the CMS Tracker Upgrade for the HL-LHC", defended at IPM Tehran (Iran) in Jan.2016.
- Member of the thesis committee of Hadi Benhamian, PhD thesis on "W boson helicity measurement in $t\bar{t}$ di-electron channel with the CMS detector at the LHC and the CMS Outer Tracker Upgrade for the HL-LHC", defended at IPM Tehran (Iran) in Dec.2015.
- Member of the thesis committee of Joseph McCartin, PhD thesis on "Top Quark Mass Measurement at CMS with a Matrix Element Method", defended at U.Gent (Belgium) in Feb.2015.
- Member of the "jury de thèse" of Grégory Hammad, PhD thesis on "Data-driven multi-jet & V+jets background estimation for top quark pair production at CMS", defended at ULB (Belgium) in Aug. 2011.

As internal member (at UCL):

- Reader of the thesis of Brieux Kaczmarczyk, MSc thesis ongoing, 2024
- Secretary of the "jury de thèse" of Khawla Jaffel, PhD thesis on "Search for 2HDM neutral Higgs bosons through $H/A \to Z(\to ll)A/H(\to b\bar{b})$ process in full run 2 LHC proton-proton collisions data", defended at UCL (Belgium) in September 2023.
- Member of the "jury de thèse" of Zhengwen Liu, PhD thesis on "Novel aspects of scattering equations", defended at UCL (Belgium) in Aug. 2019.
- Reader of the MSc thesis of Domitien Bertrand, to be defended at UCL (Belgium).
- Reader of the MSc thesis of Meriem Benmeslem, defended at UCL (Belgium) in June 2018.
- Secretary of the "jury de thèse" of Brieuc Francois, PhD thesis on "Search for New Physics at the LHC through resonant di-Higgs production and using a Model Independent Approach", defended at UCL (Belgium) in September 2017.

- Member of the "jury de thèse" of Benoit Hespel, PhD thesis on "Spin-0 boson loop-induced production at LHC in the Standard Model and beyond. The precision era", defended at UCL (Belgium) in September 2017.
- Secretary of the "jury de thèse" of Ioannis Tsinikos, PhD thesis on "Precision electro-weak top quark physics at the LHC", defended at UCL (Belgium) in July 2017.
- Reader of the MSc thesis of Sophie Mathieu, defended at UCL (Belgium) in June 2017.
- Secretary of the "jury de thèse" of Laurent Forthomme, PhD thesis on "Study of exclusive two-photon processes at the LHC", defended at UCL (Belgium) in Apr.2016.
- Member of the "jury de thèse" of Suzan Basegmez, PhD thesis on "A New Method for Mapping Detector Material in Situ and a Matrix Element Approach to the Search for Heavy Di-muon Resonances at the LHC", defended at UCL (Belgium) in Sep.2015.
- Reader of the MSc thesis of Sebastien Wertz, defended at UCL (Belgium) in June 2014.
- Member of the "comité d'accompagnement" (supervisory panel) of Andrés Felipe Vásquez Tocora, PhD thesis on "Theory vs. experiment on the Higgs boson potential", to be defended in 2022.
- Member of the "comité d'accompagnement" (supervisory panel) of Alessio Magitteri, PhD thesis on "Search for pair production of same-sign top quarks with the CMS detector at the LHC", defended in 2018.
- Reader of the MSc thesis of Brieuc Francois, defended at UCL (Belgium) in June 2013.
- Reader of the MSc thesis of Alexandre Mertens, defended at UCL (Belgium) in June 2011.

8 Outreach

- A. Giammanco, Cosmic rays for cultural heritage, CERN Courier, May/June 2023
- interviewed by IAEA: Muon Imaging: How Cosmic Rays Help Us See Inside Pyramids and Volcanoes, Apr. 2023
- interviewed by Modus magazine: Cosmic rays that spot decay: surveying with muons, Mar. 2023
- interviewed by Scientific American: Physics Particles Fly as Practical Tools, July 2022
- A. Giammanco, L. Heinrich, J. Kieseler, C. Krause, G. C. Strong, P. Vischia, Intelligent Design for Particle Detectors, June 2022
- interviewed by Science News: Muons spill secrets about Earth's hidden structures and Muons open doors, Apr. 2022
- cited in Il pollo di Marconi (in Italian), book by Vito Tartamella

- interviewed by Le Vif / L'Express: Des muons pour voir à travers le blindage, Mar. 2022
- interviewed by FNRS News: "Le délicat équilibre entre théorie et expérimentation" (full issue) (in French), February 2022
- interviewed by Elsevier: Seeing deeper with atmospheric muons: From archaeology to geology, Dec. 2021; also appeared on phys.org: Seeing deeper with atmospheric muons: From archaeology to geology, Dec. 2021
- interviewed by Daily Science: Les muons sondent les entrailles du Vésuve, Dec. 2021
- interviewed by Daily Science: Les muons, les yeux du cosmos capables de voir à travers le blindage des conteneurs, Sep. 2021
- IRMP news: SilentBorder: how research in fundamental physics spins-off applications for society, May 2021
- interviewed by phys.org: The first evidence of top quark production in nucleus-nucleus collisions, Jan. 2021
- CMS coll., *Heavy Metal hits the Top*, CMS Physics Briefing, Oct.2020
- consultant / interviewed for: A. Capocci, "L'erede di LHC", published in Le Scienze (Italian version of Scientific American), October 2019
- interviewed by Newsline: RPCs in the wild, also republished in "On Track": AIDA-2020 technology in the wild
- interviewed by Muographix about UCL to Mars and our muography project
- interviewed by EURAXESS Japan for their Quartely Newsletter, October 2018 (pages 10-12), about the INTENSE project
- interviewed in: M. Sandal, "Smarriti nella matematica" (in Italian), published on Il Tascabile, August 2018
- consultant / early reviewer for: M. Sandal, "Storia della velocità della luce" (in Italian), published on Il Tascabile, June 2018
- "CMS technology used to develop a new portable muon telescope", published on CMS News, Feb.2019
- "Etude des noyaux lourds" (in French), published on FNRS News, March 2018
- A. Giammanco, review of Sabine Hossenfelder's "Lost in Math", published on the CERN Courier, January 2019
- A. Giammanco, review of Milan Cirkovic's "The Great Silence", published on the CERN Courier, November 2018
- A. Giammanco, review of Neil deGrasse Tyson, Michael A Strauss and J Richard Gott's "Welcome to the Universe", published on the CERN Courier, July 2018
- A. Giammanco, review of J. Coopersmith's "Lazy Universe", published on the CERN Courier, December 2017

- A. Giammanco, review of T. Dorigo's "Anomaly!", published on the CERN Courier, September 2017
- A. Giammanco, review of P. Rorth's "Raw Data", published on the CERN Courier, July 2017
- A. Giammanco, review of T. Dorigo's "Anomaly!", published on Il Nuovo Saggiatore, vol.33, year 2017, n.1-2
- Co-author of the AMVA4NewPhysics blog; my posts are collected here
- Official CMS Guide for several visits in 2013
- Interviewed by 2B Productions for the preparation of "Tutta colpa di Einstein" (interview in Dec.2014, broadcast in Dec.2015).
- CMS coll., *CMS observes top quarks in proton—nucleus collisions*, CERN Courier, Nov.2017
- CMS coll., *CMS investigates the width of the top quark*, CERN Courier, Oct.2016
- CMS coll., *CMS observes new single-top production mode*, CERN Courier, Feb.2014
- A. Giammanco, J. Wagner-Kuhr, *Measurement of the t-channel single Top-quark production rates in pp collisions at 7 TeV*, CMS Times, Sep.2011
- Dec.2017: seminar accessible to mathematicians on *"Unfolding in experimental particle physics"* at the "When the M meets the P at IRMP" event of the Institut de Recherche en Mathematique et Physique (UCLouvain), Louvain-la-Neuve, Belgium
- May 2017: seminar accessible to mathematicians on *"Data analysis in Experimental Particle Physics"* at the Team Building retreat of the Institut de Recherche en Mathematique et Physique (UCLouvain), De Panne, Belgium
- May 2005: outreach seminar on *"History of Particle Physics"* at Scuola Normale Superiore, Pisa, Italy
- Nov. 2000: outreach seminar on *"The Higgs boson"* at Scuola Normale Superiore, Pisa, Italy

Although that's not what one usually considers outreach, for lack of a better place, I list also my contributions to another discipline as part of the "data":

- Sebastian Stefan Feger, Sunje Dallmeier-Tiessen, Pawel W. Wolniak, and Albrecht Schmidt, Gamification in Science: A Study of Requirements in the Context of Reproducible Research. In Proceedings of CHI Conference on Human Factors in Computing Systems (CHI '19), May 4–9, 2019, Glasgow, Scotland UK. (My interview: P7)
- Sebastian Stefan Feger, Sunje Dallmeier-Tiessen, Albrecht Schmidt, and Pawel W. Wolniak, Designing for Reproducibility: A Qualitative Study of Challenges and Opportunities in High Energy Physics. In Proceedings of CHI Conference on Human Factors in Computing Systems (CHI '19), May 4–9, 2019, Glasgow, Scotland UK. (My interview: P9)

9 Advisory Activities

- Consultant for:
  - Particle Data Group, for the Top Quark chapter of the 2016 edition of their review of particle physics.
- Referee for:
  - Physics Letters B (prize as "Most Valuable Reviewer" in 2010)
  - European Physical Journal C
  - European Physical Journal Plus
  - JHEP
  - IEEE Transactions on Nuclear Science
  - Earth and Space Science
  - Instruments
  - Machine Learning: Science and Technology (prize as "Outstanding Reviewer" in 2020 and 2022)
  - Physics Open
  - JINST
  - Journal of Applied Physics
  - Scientific Reports
  - Symmetry
  - Nuclear Instruments and Methods A
  - iScience
  - Applied Sciences
  - Physica Scripta
  - Review of Scientific Instruments
  - Computer Physics Communications
  - Nuclear Science and Techniques
  - Nuclear Physics B
  - Engineering Applications of Artificial Intelligence
  - Geoscientific Instrumentation, Methods and Data Systems
  - Journal of Archaeological Science: Reports
- Editorial Board member for Physica Scripta (IOP Publishing), Jan.-Aug. 2023
  - Initially accepted to join their editorial board for an initial two-year term up to and including 31 December 2024.
  - I quit their editorial board in August 2023 due to their refusal to retract a pseudo-science article: Leif Holmlid and Sindre Zeiner-Gundersen, "Ultradense protium p(0) and deuteriu D(0) and their relation to ordinary Rydberg matter: a review", Phys. Scr. 94 (2019) 075005, `https://iopscience.iop.org/article/10.1088/1402-4896/ab1276`
  - For a summary of why that paper is pseudo-science, refer e.g. to `https://arxiv.org/abs/2207.08133`

- Publons profile: `https://publons.com/author/966014/andrea-giammanco`
- "Outstanding Reviewer" (2020 and 2022) for *Machine Learning: Science and Technology*.
- "Most Valued Reviewer" (2010) for *Physics Letters B*.
- "Analysis Review Committee" (ARC) member, i.e. internal CMS referee, for the following public documents (with internal CMS code in parenthesis):
  - CMS Note on the prospects for spin correlations measurement (CMS NOTE 2006/111)
  - paper on the measurement of the muon stopping power in the electromagnetic calorimeter (CFT-09-005)
  - paper on the first measurement of B^+ cross section at 7 TeV (BPH-10-004)
  - paper on the first measurement of B^0 cross section at 7 TeV (BPH-10-005)
  - Physics Analysis Summary (PAS) on Wc measurement at 7 TeV (EWK-11-013)
  - paper on b' search in dileptonic and trileptonic final states (EXO-11-036)
  - Physics Analysis Summary (PAS) on $t \to Wb$ branching ratio at 7 TeV (TOP-11-029)
  - Physics Analysis Summary (PAS) on $t \to Wb$ branching ratio at 8 TeV (TOP-12-035)
  - **ARC chair:** Physics Analysis Summary (PAS) on b' search in single-leptonic final states (B2G-12-004)
  - Physics Analysis Summary (PAS) on top quark mass in the all-hadronic channel (TOP-11-017
  - Physics Analysis Summary (PAS) on missing energy in top quark pair events (TOP-12-019)
  - Physics Analysis Summary (PAS) on missing energy, H_T and other global distributions in top quark pair events (TOP-12-042)
  - **ARC chair:** Physics Analysis Summary (PAS) on Underlying Event and fragmentation studies in $t\bar{t}$ events (TOP-13-007)
  - Physics Analysis Summary (PAS) on the measurement of single-top cross section in s channel at 8 TeV (TOP-13-009)
  - Physics Analysis Summary (PAS) on the measurement of the top mass in the lepton+jets channel at 8 TeV (TOP-14-001)
  - Physics Analysis Summary (PAS) on the measurement of the top mass in the all-hadronic channel at 8 TeV (TOP-14-002)
  - Physics Analysis Summary (PAS) on the limits on chromo-magnetic dipole moments of the top quark (TOP-14-005)
  - Internal reviewer (for the $H \to b\bar{b}$ subgroup) of the search for the standard model Higgs boson produced in vector boson fusion and decaying to bottom quarks using the full $\sqrt{s} = 8$ TeV 2012 data sample (HIG-14-004)
  - **ARC chair:** paper on a measurement of the top quark mass in single top events (TOP-15-001)
  - **ARC chair:** paper on a measurement of the top quark mass in dileptonic events (TOP-15-008)

  - Paper on WW production by double parton scattering (FSQ-16-005)
  - **ARC chair:** Physics Analysis Summary (PAS) on the search for single top plus Higgs in multi-lepton final states (HIG-17-005)
  - Paper on LHC Run-I combination of V_{tb} extractions from single top (TOP-17-006)
  - Paper on the measurement of the underlying event in $t\bar{t}$ dilepton events at 13 TeV (TOP-17-015)
  - **ARC chair:** Paper on the search for heavy Higgs decaying to $t\bar{t}$ at 13 TeV (HIG-17-027)
  - **ARC chair:** Physics Analysis Summary (PAS) on the projections for searches of FCNC single-top production (FTR-18-004)
  - Paper on the measurement of the top quark forward-backward asymmetry in l+jets events at 13 TeV (TOP-15-018)
  - **ARC chair:** Paper on the measurement of the top quark mass in single top events at 13 TeV (TOP-19-009)
  - Paper on the measurement of the top quark mass in tt+j events at 13 TeV (TOP-21-008)
  - Paper on the LHC top mass Run-1 combination (TOP-22-001)
  - **ARC chair:** Paper on the first measurement of $t\bar{t}$ production at 13.6 TeV (TOP-22-012)
  - Paper on the first measurement of W and Z production at 13.6 TeV (SMP-22-017)
  - **ARC chair:** Summary paper on the top mass measurements in Run 1 and Run 2 (TOP-23-003)
  - Paper on the first measurement of WW production at 13.6 TeV (SMP-24-001)
  - **ARC chair:** Measurements of inclusive and differential ttW cross-section and charge asymmetry at 13 TeV in Run 2 (TOP-24-003)

- Member of the CMS Top Physics Editorial Board from Jan.2012, then merged into the CMS Heavy Quarks Editorial Board since Jan.2014, until Aug. 2014. The main role of that board is the final review ("Final Reading") of all papers published by the relevant physics groups.

- Top PAG conference contact during 2014; in charge of abstract proposals and of the review of all conference talks containing CMS results related to top quarks.

- CMS-certified Language Editor (CCLE): in this role, I review the editorial quality of CMS papers after their "Physics Approval". Papers reviewed as CCLE, apart from my own:

  - Paper on ATLAS and CMS combination of $A_C^{t\bar{t}}$ measurements (TOP-15-016)
  - Paper on measurement of jet activity in $t\bar{t}$ events using l+jets final states at 13 TeV (TOP-17-002)
  - Paper on top quark mass from ttbar lepton+jets at 13 TeV (TOP-17-007)
  - Paper on the measurement of the underlying event in $t\bar{t}$ dilepton events at 13 TeV (TOP-17-015)

  - Paper on LHC Run-I combination of V_{tb} extractions from single top (TOP-17-006)
  - Paper on the search for $H/A \to Z(ll)A/H(b\bar{b})$ with 13 TeV data (HIG-18-012)
  - Paper on a search for new physics via top quark production in dilepton final state at 13 TeV (TOP-17-020)

Award application reviews:

- 2023: Outstanding Research Award, National Science and Technology Council (NSTC), Taiwan

Funding application reviews:

- Since 2022: Jury member for PE9 (astrophysics, cosmology, instrumentation), FRIA doctoral grants, Belgium.
- 2016 and 2024: Remote referee on behalf of the Scientific Council of the European Research Council (ERC) for ERC Starting Grant applications.
- 2024: Referee for the University Research Fellowships, Royal Society, UK.
- 2023: Referee for the Israel Science Foundation, Israel.
- 2023: Referee for a UKRI Future Leaders Fellowships, UK.
- 2023: Referee on behalf of the National Centre of Science and Technology Evaluation (NCSTE) of the Ministry of Education and Science of Kazakhstan.
- 2022: Referee for the Science Vanguard Research Program, on behalf of Department of Natural Science and Sustainable Development, Ministry of Science and Technology, Taiwan.
- 2020: Referee on behalf of the Science and Technology Facilities Council (UK) for a research grant application.
- 2019, 2020, 2021, 2023: Referee on behalf of the Swiss National Science Foundation for various research grant applications.
- 2018 and 2021: Referee for various senior multi-institute PRIN applications (*Progetti di Ricerca di Rilevante Interesse Nazionale*, i.e. Research Project of Considerable National Interest) on behalf of the Italian Ministry of University and Research.
- 2018: Referee for 5 applications to "Rita Levi Montalcini" tenure-track positions on behalf of the Italian Ministry of University and Research.
- 2017 and 2018: Referee on behalf of the Czech Science Foundation for individual research grant applications.
- 2016: Remote referee on behalf of the Scientific Council of the European Research Council (ERC) for an ERC Starting Grant application.
- 2012: Referee on behalf of Padua University for an individual research grant application.

Institutional reviews:

- 2021: Referee for the VQR 2015-2019: evaluation of the research products (articles, patents, etc.) listed by Italian institutes in particle physics.

- 2014: Referee on behalf of the European Science Foundation for an application received by the Portuguese Foundation for Science and Technology (FCT) in the framework of its periodic evaluation of R&D Units.

Other advisory roles:

- 2022-2025: Member of the Advisory Board of USERN
- Since 2018: registered expert scientific reviewer (REPRISE database) for the Italian Ministry of Education, Universities and Research (MIUR).

10 Conferences, Workshops, Seminars, Outreach

Bold indicates speaker selection by the Conference Committee of an international collaboration (CMS or ALEPH).

- Muography:
  - Feb. 2024, SilentBorder annual meeting (SGS headquarters, Geneva, Switzerland), *WP3: Monte Carlo modelling*
  - July 2023, Invited seminar at Indian Institute of Science (IISc), Bangalore, India
  - June 2023, International Workshop on Muography 2023 (Naples, Italy), *Status and first results of the MURAVES campaign at Mt. Vesuvius*
  - Dec.2022, MUOGRAPHERS 2022 (online; organized by ERI Tokyo, Japan), *A report on portable muography for cultural heritage*
  - Oct.2022, Invited seminar at National Institute of Science Education and Research (NISER), Jatani, Odisha, India
  - Sep.2019, "Technical Meeting on Non-destructive Testing Using Muon Radiography: Present Status and Emerging Applications" (IAEA, Vienna, Austria), *Muon Radiography in Belgium: Status and Perspectives*
  - Nov.2018, MUOGRAPHERS 2018 (Tokyo, Japan), *Portable muography based on small and gas-tight Resistive Plate Chambers*, and *Plans for muography in the EMN and INTENSE networks*
  - Oct.2018, GSRM2018, Giornate di Studio sulla Radiografia Muonica in ambito multidisciplinare (Florence, Italy), *Funding opportunities for multidisciplinary muography initiatives in Europe*
  - July 2018, Invited colloquium at Roma Tre University, Rome, Italy
  - Oct.2017, MUOGRAPHERS 2017 (Tokyo, Japan), *The European Muography Network initiative*
  - June 2017, 1st MIVAS workshop (Clermont-Ferrand, France), *Time of flight calibration of the MU-RAY detector*
- Data analysis:
  - Feb. 2020, series of "Brown bag seminars" on "Data analysis in CMS" at three Lebanese universities: AUB, LAU, USJ, in the framework of the establishment of a Lebanese data-center sponsored by CERN and involving the Lebanese telecom company Ogero
  - Jan. 2020, "High Energy Physics and Data Analytics: A Lebanon-CMS/CERN Workshop" (AUB, Beirut, Lebanon), talk on *"Challenges facing CMS data analysis in the 20's"*
  - Dec. 2017, UCLouvain, Louvain-la-Neuve, Belgium, *"Unfolding in experimental particle physics"* at the "When the M meets the P at IRMP" event of the Institut de Recherche en Mathematique et Physique (UCLouvain)
  - May 2017, De Panne, Belgium, *"Data analysis in Experimental Particle Physics"* at the Team Building retreat of the Institut de Recherche en Mathematique et Physique (UCLouvain)
- CMS Status and Prospects:

  - Jan. 2020, "High Energy Physics and Data Analytics: A Lebanon-CMS/CERN Workshop" (AUB, Beirut, Lebanon), talk on *"The CMS experiment"*
  - **Jul.2010, PASCOS2010, 16th International Symposium on Particles Strings and Cosmology (Valencia, Spain)**; with proceedings
  - Sep.2008, Invited seminar at Liege University, Belgium
  - **Jul.2008, SPIN 2008, Advanced Study Institute, Spin and Symmetries (Prague, Czech Republic)**; with proceedings

- Top quarks and exotic Physics in Heavy Ion collisions:
  - June 2020, Invited talk at a meeting of the EF07 group (Heavy Ion Physics) in the Snowmass process (virtual meeting because of the COVID-19 crisis), *New physics searches with heavy ion collisions*
  - May 2019, Invited plenary talk at Searching for long-lived particles at the LHC: 5th workshop of the LHC LLP community (CERN, Switzerland), *Heavy Ions and Hidden Sectors*
  - Oct. 2018, Invited seminar at Granada University, Spain

- Top Quark Physics:
  - May 2018, Invited seminar at Catania University, Italy
  - Sep.2017, TOP2017, International Workshop on Top Quark Physics (Braga, Portugal), *Plenary summary of the experimental results*; with proceedings
  - Apr.2017, DIS2017, Deep Inelastic Scattering Workshop (Birmingham, UK), *Plenary summary of the Heavy Flavours working group sessions* (with Rhorry Gauld and Alex Pierce); with proceedings
  - **May 2013, Rencontres de Blois (Blois, France)**; with proceedings
  - **Sep.2011, TOP 2011, International Workshop on Top Quark Physics (Barcelona, Spain)**, *Prospects for top quark physics with 10 fb^{-1}*; with proceedings
  - Nov.2010, GDR Terascale meeting (Brussels, Belgium)
  - Dec.2009, Invited seminar at IPNL, Lyon, France
  - Mar.2009, Top quark workshop (Lisbon, Portugal)
  - May 2008, IUAP Meeting (Leuven, Belgium), *Opening talk*
  - Feb.2008, Invited seminar at IPNL, Lyon, France
  - Feb.2008, Invited seminar at IPHC, Strasbourg, France
  - Apr.2007, Meeting of *Gruppo I* (Particle Physics with Colliders) of INFN [7]
  - Oct.2006, Invited seminar at Bonn University, Germany
  - **July 2005, HCP 2005, Hadron Collider Physics Symposium (Les Diablerets, Switzerland)**; with proceedings
  - Apr.2005, Tev4LHC Workshop (CERN, Switzerland); with proceedings

[7] INFN representatives at national and local levels meet few times per year for two days, to discuss organizational issues and the status of the experiments where INFN is directly involved. It is customary to devote part of this time to talks by invited speakers about physics topics judged of particular relevance. In that occasion the speakers were me for CMS, Marina Cobal for ATLAS, Andrea Castro for Tevatron, and Vittorio Del Duca for theory. My presence was doubly unusual, being a postdoc and being unaffiliated with INFN. Link to the agenda

  - Oct.2004, II Workshop Italiano sulla Fisica di ATLAS e CMS (Naples, Italy); with proceedings

- Single Top:
  - Dec.2014, II CMS Single-Top Workshop (Naples, Italy), closing talk *Run 2: early measurements and long run possibilities*
  - Apr.2011, Invited seminar at CIEMAT, Madrid, Spain
  - Apr.2011, Invited seminar at Granada University, Spain
  - Apr.2011, Invited seminar at LPNHE, Paris, France
  - Feb.2010, Invited seminar at IPHC, Strasbourg, France
  - Feb.2010, Invited seminar at LPC, Clermont-Ferrand, France
  - Jan.2010, Invited seminar at LPSC, Grenoble, France
  - Oct.2009, Invited seminar at La Sapienza, Rome, Italy
  - Sep.2009, Invited seminar at Galileo Galilei Institute, Florence, Italy
  - **Jan.2006, TOP 2006, International Workshop on Top Quark Physics (Coimbra, Portugal)**; with proceedings
- Top and Higgs connection (including tH search):
  - Apr.2017, Invited seminar at Perugia University, Italy
  - Dec.2016, "Selected Puzzles in Particle Physics" Workshop (LNF, Frascati, Italy)
  - Apr. 2015, Invited seminar at IFAE Barcelona, Spain
  - June 2014, The Flavor of Higgs Workshop (Weizmann Institute, Israel)
  - Mar.2014, Invited seminar at Weizmann Institute, Israel
- FastSim:
  - Jan.2014, FastMC2014, 2nd international workshop / school on fast Monte Carlo for High Energy Physics (DESY Zeuthen, Germany), closing summary talk
  - **Oct.2013, CHEP2013, Computing in High Energy Physics (Amsterdam, Netherlands)**; with proceedings
  - Jan.2013, FastSim2013, 1st international workshop / school on fast simulations for High Energy Physics (DESY Zeuthen, Germany), talks on *Fast tracking simulations at LHC* and *Closing remarks*
  - Oct.2011, LHC detector simulations workshop (CERN, Switzerland)
  - May 2006, MCWS II, Workshop on Monte Carlo, Physics and Simulations at LHC (Laboratori Nazionali di Frascati, Italy); with proceedings
- Particle Identification by dE/dx in the CMS Silicon Strip Tracker, and Searches for Long-Lived Particles:
  - **Aug.2010, JET2010, Jets in proton-proton and heavy-ion collisions (Prague, Czech Republic)**; with proceedings
  - Feb.2010, Invited seminar at LLR, Paris, France
  - **Jul.2009, EPS2009, Europhysics Conference on High Energy Physics (Krakow, Poland)**; with proceedings
  - Feb.2009, LHC2FC Workshop, From the LHC to a Future Collider (CERN, Switzerland); with proceedings

- Gluon Splitting into Heavy Quarks at LEP:
  - **Apr.2004, DIS 2004, XII International Workshop on Deep Inelastic Scattering (Strbske Pleso, Slovakia)**; with proceedings
  - **Jul.2003, EPS 2003, European Physical Society conference (Aachen, Germany)**, posters on *Gluon splitting into charm quark pairs in ALEPH* and *Inclusive D* production in $\gamma\gamma$ collisions in ALEPH*
  - **Apr.2003, DIS 2003, XI International Workshop on Deep Inelastic Scattering (St.Petersburg, Russia)**; with proceedings
  - Apr.2002, Incontri sulla Fisica delle Alte Energie (Parma, Italy); with proceedings
  - **Feb.2002, Lake Louise Winter Institute (Lake Louise, Canada)**; with proceedings
- Other topics:
  - Dec. 2020, Webinar "Publications scientifiques et Open Access" organized by Assucopie, *Open Access practices in High Energy Physics*
  - Oct. 2018, Open Access Publishing event as part of the Open Access Week 2018 (Louvain-la-Neuve, Belgium), *Open Access practices in High Energy Physics*
  - Oct. 2018, Info Session on Marie Skłodowska-Curie ITN/RISE 2019 calls for proposals (Brussels, Belgium), *The RISE network INTENSE*
  - Feb. 2006, MCWS I, Workshop on Monte Carlo, Physics and Simulations at LHC (Laboratori Nazionali di Frascati, Italy); main editor of Chapter 4 ("Jets at LHC") of the volume of proceedings
  - May 2005, Les Houches Workshop on "Physics at TeV colliders" (Les Houches, France); proceedings: D. Benedetti, S. Cucciarelli, A. Giammanco, J. Heyninck, J. D'Hondt, A. Schmidt, C. Weiser, *Study of jet clustering algorithms at the LHC*, included in Les Houches report
  - Mar.2005, Incontri sulla Fisica delle Alte Energie (Catania, Italy), *Electroweak physics at LHC*; with proceedings
  - Sep.2002, LXXXVIII Congresso Nazionale Società Italiana di Fisica (Alghero, Italy), *B_s oscillations with the ALEPH detector*
  - Oct.2000, LXXXVI Congresso Nazionale Società Italiana di Fisica (Palermo, Italy), *Study of the B_s oscillations with the ALEPH detector* [8]
  - Apr.2000, XII Convegno sulla Fisica a LEP (Trieste, Italy), *b quark fragmentation*
- Outreach:
  - May 2005, Scuola Normale Superiore, Pisa, Italy, *"History of Particle Physics"*
  - Nov. 2000, Scuola Normale Superiore, Pisa, Italy, *"The Higgs boson"*

[8] Unusually for a 1st-year PhD student, I was given a long (45′) talk in the opening plenary session. Also to be remarked that B_s oscillations and b fragmentation were not part of my research project, but I was an active member of the "Heavy Flavour" analysis group in ALEPH, and some of my FORTRAN code has been used by other analyses of the group.

11 Bibliography

My Inspires profile is
`http://inspirehep.net/author/profile/A.Giammanco.1`

My Google Scholar account is
`http://scholar.google.be/citations?user=Mn3zVmMAAAAJ`

A motivated list of selected publications can be found at the URL
`http://cern.ch/andrea.giammanco/curriculum/articles.html`

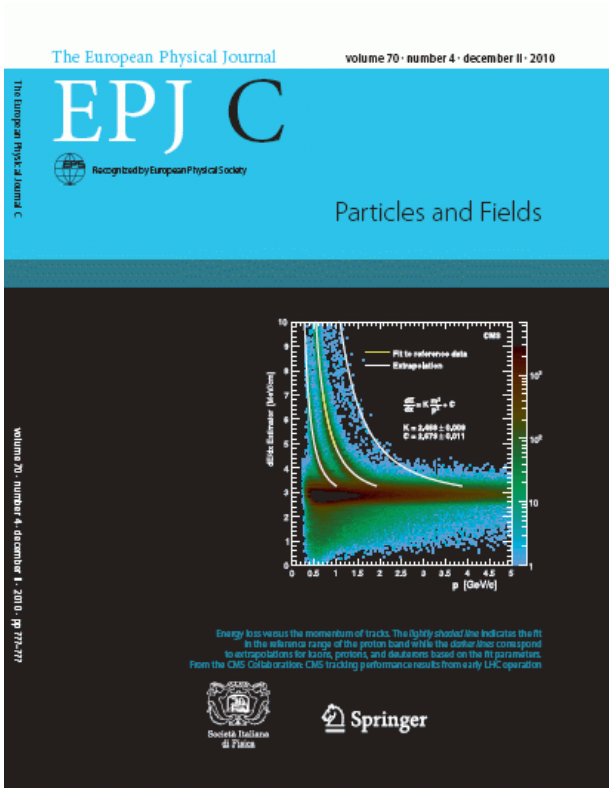

Figure 1: Cover of Eur.Phys.J. C featuring my dE/dx vs P plot.

12 Outside of Physics

- Author of *"Gauss alla Z.E.N."* (in Italian), appeared in the anthology *"Una storia al giorno"* printed by Giulio Perrone Editore in Nov. 2024
- Collaborated with Adam Marek on the short story *"End titles"* (and wrote an Afterword for it), appeared in the anthology "Collision" printed by Comma Press in Dec. 2022
- Author of *"Particelle stabili cariche e massicce"* (in Italian), appearing at `https://heavystablechargedparticles.wordpress.com/`
- Author of *"Reinterpretazione dell'Interpretazione"* (in Italian), an essay based on *"Interpretazione quantistica della camera chiusa"* by Elia Spallanzani; included in *"Macchina per scrivere"*, edited by Fondazione Elia Spallanzani, published by Bomarzo in 2014.

- Some science-fiction literary reviews in Italian published between 2003 and 2004 on `http://www.intercom-sf.com`
- Finalist in 1993 of the national literary contest *"Modello Pirandello"* (Agrigento, Italy)