

# **GIANLUCA DALLA VECCHIA - C.V. FORMATO RIDOTTO**

(ai sensi ai sensi degli artt. 46 e 47 del D.P.R. 445/2000 si dichiara che le informazioni contenute nel presente curriculum corrispondono al vero)

## **TITOLI DI STUDIO**

- Laurea in Scienze Politiche (vecchio ordinamento), voto 108/110, aprile 1992, presso l'Università degli Studi di Roma "La Sapienza"
- Master in Diritto del Lavoro nelle Pubbliche Amministrazioni e sulla Gestione del Personale, voto 60/60, dicembre 2016, presso la Scuola Superiore di Amministrazione Pubblica e degli Enti Locali

## **DIPLOMI DI QUALIFICAZIONE PROFESSIONALE**

- Knowledge Manager (formazione delle risorse umane e gestione della conoscenza), con borsa di studio post-laurea (Università di Bari, 03/05/1994-06/10/1994)
- Project Management per lo sviluppo di sistemi software basati su database relazionali (IAL CISL, Roma, 14/11/1994-10/03/1995)

## **CORSI DI FORMAZIONE**

- CORSI INFN:
  - o Public speaking avanzato (Frascati, 08-09 luglio 2019)
  - o Formazione manageriale ricolto al personale tecnico e amministrativo responsabile di servizi (Frascati, 02-04 luglio 2019)
  - o Public speaking base (Frascati, 28-29 marzo 2019)
  - o Gli Istituti del rapporto di lavoro alla luce del nuovo CCNL-Lavoro Agile (Ferrara, 16-17 aprile 2019)
  - o Presentazione del lavoro svolto dal GdL dedicato alla preparazione del disciplinare dei concorsi (Torino, 10-11 aprile 2018)
  - o Le relazioni sindacali e gli istituti del rapporto di lavoro nel nuovo CCNL. Gli incarichi extra istituzionali. La disciplina dell'accesso agli atti e ai dati dell'INFN (Genova, 19-20 settembre 2018)
  - o Corso di formazione sul trattamento dei dati personali (LNF, 28 novembre 2018)
  - o Equità e cultura di genere - Seminario Società egualitaria, utopia o possibilità? (LNF, 7 giugno 2018)
  - o La prevenzione della corruzione – livello avanzato (modalità e-learning, 16 marzo 2017)
  - o Dematerializzazione e gestione documentale, il viaggio verso il cambiamento (LNF, 3 dicembre 2015)
  - o Ingresso e soggiorno dei ricercatori stranieri (Pisa, 1-2 ottobre 2015)
  - o Aggiornamenti normativi in materia di personale (Firenze, 1-2 aprile 2015)
  - o Incontro formativo della Direzione Affari del Personale (LNF, 3 dicembre 2013)
  - o Ingresso e soggiorno ricercatori stranieri (Pisa, 3-4 ottobre 2012)
  - o Godiva, il nuovo sistema di gestione ospiti, dipendenti, visitatori ed associati per le segreterie (Lecce, 16-17 novembre 2011)
  - o File Maker Avanzato (LNF, 17 ottobre - 23 novembre 2011)
  - o Joomla (Bologna, 3-4 novembre 2009)
  - o Incaricati del trattamento dei dati personali (IV edizione, Torino, 14-15 dicembre 2004)
  - o Associazioni, Convenzioni, Ordinamento e Assicurazioni – Affari Internazionali – Trattamento di missione (Cagliari, 18-20 novembre 2003)
  - o La gestione del personale, aggiornamenti normativi (Catania, 19-21 febbraio 2003)
  - o Autocertificazione e diritto di accesso ai documenti (Frascati, 5-6 maggio 1999)
  - o World Wide Web Avanzato (Bari, 28 settembre - 2 ottobre 1998)
  - o Reti e applicazione di reti, World Wide Web (Roma, 14-16 maggio 1998)
  - o Attestato di frequenza (con verifica): Formazione per il preposto (modalità e-learning, 4 ore, 11 giugno 2018)
  - o Attestato di frequenza (con verifica): Formazione per lavoratori (modalità e-learning, 4 ore, 27 agosto 2013)

- CORSO VALORE P. A. (INPS)  
Strumenti di gestione delle risorse umane nei contesti organizzativi, composto da otto moduli:
  - o L'approccio "Lean" nell'organizzazione: favorire il passaggio delle informazioni (Roma, 26 giugno 2019)
  - o Favorire i comportamenti che facilitano la coesione: l'intelligenza emotiva (Roma, 25 giugno 2019)
  - o Gestione del conflitto: conoscere le dinamiche del conflitto e le sue soluzioni (Roma, 4 giugno 2019)
  - o Il lavoro di gruppo (Roma, 3 giugno 2019)
  - o Il Dirigente efficace: psicologia dei gruppi e gestione delle relazioni (Roma, 23 maggio 2019)
  - o Valori e comportamenti che non possono mancare: trasmettere la cultura dell'Etica nella P.A. (Roma, 15 maggio 2019)
  - o La riorganizzazione di successo. Come coinvolgere i dipendenti per produrre i migliori risultati in tempi di razionalizzazione delle risorse (Roma, 6 maggio 2019)
  - o La gestione delle risorse umane nella Pubblica Amministrazione: gli strumenti a disposizione (Roma, 12 aprile 2019)
  
- CORSO CEIDA:
  - o Procedure concorsuali di reclutamento del personale nelle amministrazioni pubbliche (Roma, 27-29 novembre 2008)
  
- CORSI ITA (Gruppo SOI):
  - o Tutto su quiz, concorsi ed esami delle università e delle P. A. (Roma, 20-21 novembre 2007)
  - o I verbali nelle pubbliche amministrazioni (Roma, 10-11 novembre 2007)
  - o Le autocertificazioni e la semplificazione della documentazione amministrativa (Roma, 4 novembre 2005)
  - o Giurisdizione e responsabilità nei concorsi pubblici (Roma, 3-4 ottobre 2002)
  - o Accesso ai documenti amministrativi dopo il T. U. in tema di privacy: risoluzione dei casi pratici (Milano, 25-26 settembre 2003)
  
- CORSO ISTITUTO EUROPEO DI DESIGN
  - o Pagemaster web (Roma, novembre 1995 – febbraio 1996)

### **CONOSCENZE LINGUISTICHE**

- Madrelingua italiano (insegnante, su base volontaria, in un corso di lingua italiana per stranieri tenutosi presso i Laboratori Nazionali di Frascati).
- Buona conoscenza scritta e parlata della lingua inglese (Diploma First Certificate in English, giugno 2001)
- Buona conoscenza scritta e parlata della lingua francese (diversi corsi universitari + stage di un mese presso l'Université de Paris VII, settembre 1994)

### **ESPERIENZA PROFESSIONALE PRESSO I LABORATORI NAZIONALI DI FRASCATI DELL'INFN**

- Assunto in data 7 gennaio 1998 con la qualifica di Collaboratore di Amministrazione – VII livello professionale (U.F. Funzionamento - Ufficio Concorsi, Borse di Studio, Utenti Esterni).
- Dal 1° giugno 2012, nominato Responsabile dell'Ufficio Concorsi, Borse di Studio, Utenti Esterni.
- Dal 1° agosto 2016, nominato Responsabile del Servizio del Personale. Il Servizio è dotato dei seguenti uffici: Ufficio Gestione del Personale, Ufficio Controllo Orario e Procedure Informatico-Amministrative, Ufficio Concorsi, Borse di Studio, Utenti Esterni
- Dal 31 dicembre 2018, inquadrato nel profilo di Funzionario di Amministrazione, V Livello professionale.

# STEFANO GIAGU

## Curriculum Vitae

Rome  
August 28<sup>th</sup>, 2019

### Part I – General Information

Full Name	STEFANO GIAGU
Spoken Languages	Italiano, English, Français

### Part II – Education

Type	Year	Institution	Notes
Laurea in Physics	1992	Sapienza Università di Roma	maximum score cum Laude (110 e Lode)
PhD in Physics	1997	Sapienza Università di Roma	judgment: Ottimo (maximum score)

### Part III – Appointments

#### IIIA – Academic Appointments

Start	End	Institution	Position
23.1.2014	--	MIUR	Qualified for the role of full Professor (Professore di Prima Fascia (SC: 02/A1)) in the call of “Abilitazione Scientifica Nazionale alle funzioni di Professore Universitario 2012 (Decreto Direttoriale 222 del 20 Luglio 2012)”
1.11.2011	--	Sapienza Università di Roma	Associate Professor (Professore Seconda fascia) department of Physics
1.10.1999	30.10.2011	Sapienza Università di Roma	Assistant Professor (Ricercatore) department of Physics
1.3.2001	1.3.2004	DOE/URA (USA)	Visiting Scientist at Fermi National Laboratory
1.5.1997	1.5.1999	Istituto Nazionale Fisica Nucleare	post-doctoral fellow INFN Roma1
1.6.1993	1.3.1994	Istituto Nazionale Fisica Nucleare	Post-MD fellow INFN Roma1

#### IIIB – Scientific Coordination Appointments

Start	End.	Institution/Experiment	Role
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1.7.2019	--	ATLAS Experiment / INFN	National Coordinator of the ATLAS Italy Collaboration (Coordinatore Nazionale ATLAS Italia): a community of ~300 researcher and a budget of ~4 MEuro/year
1.7.2019	--	Istituto Nazionale Fisica Nucleare	Local Responsible for the INFN CSN5 group ML_INFNO: for the development of an end-to-end approach to the use of Machine Learning for INFN research lines
1.6.2016	1.7.2019	Istituto Nazionale Fisica Nucleare	Coordinatore Sezione Roma1 per la CSN1: a community of ~ 120 researcher / tecnici
2016	--	ATLAS Experiment	Theory hotspot for the ATLAS experiment
2017	2018	DarkSide-20k experiment	Member of the Management Board
2013	2015	ATLAS Experiment	Member of the Publication Committee: supervision of all the publications of the ATLAS experiment (~2900 authors)
2017	2018	DarkSide-20k experiment	Coordinator of the Software and Science Simulation group: ~20 people
2015	2017	ATLAS Experiment	Coordinator of the Unconventional and exotic Higgs decays physics group: ~150 people
2010	2012	ATLAS Experiment	Physics Coordinator of the ATLAS-Italia collaboration: ~100 people
2009	2017	ATLAS Experiment	Coordinator of the Physics activities of the ATLAS-Rome group: ~36 people
2010	2011	ATLAS Experiment	Coordinator of the Long-Lived Particles group: ~80 people
2009	2010	ATLAS Experiment	Coordinator of the Physics Analysis Tools group: ~150 people
2005	2007	CDF Experiment	Physics Coordinator of the B-Physics group: ~150 people
2000	2004	CDF Experiment	Coordinator of the Flavor Tagging and fully hadronic B decays groups: ~40 people
1995	1999	L3 Experiment	Responsible of the SUSY processes Monte Carlo generator group

### IIIC – Institutional Appointments

Start	End	Institution	Role
2018	--	Sapienza Università di Roma	Member of the Committee: Centro Info Sapienza for years 2018-2021
2014	2016	Sapienza Università di Roma	Member of the Giunta Facoltà Scienze Matematiche, Fisiche e Naturali
2012	--	Università di Siena	Member of the Consiglio di Dottorato Di Ricerca in Fisica Sperimentale

### IIID – Referee/Reviewer Appointments

Start	End	Institution	Role
2018	--	Istituto Nazionale Fisica Nucleare	Referee for Marie-Curie fellowship
2017	2017	MIUR	Referee Programma per Giovani Ricercatori "Rita Levi Montalcini"
2018	--	National Science Center, Poland	Reviewer for grant proposal
2016	--	European Physical Journal C - Springer	Reviewer
2016	--	Journal of Instrumentation - SISSA	Reviewer
2009	2011	SIF, Nuovo Cimento	Editorial Board member for the IFAE 2010
2016	--	INFN CSN1	Referee Esperimento Belle-II
2016	--	INFN CSN1	Referee Esperimento KLOE-2

2014	--	INFN CSN1	Referee Esperimento PADME
2013	2013	MIUR	Referee progetti Futuro in Ricerca

#### Part IV – Teaching experience

- supervisor of 13 PhD student thesis in Physics (list provided at the end of this document)
- supervisor of 36 Master-degree student thesis in Physics (list provided at the end of this document)
- supervisor of more than 60 Bachelor-degree (dissertazioni) in Physics
- supervisor of several post-doctoral students, CERN and INFN-DOE summer-students, FNAL summer-students in Physics

Year	Institution	Lecture/Course
2020	Sapienza Università di Roma	Detectors and Accelerators in Particle Physics (Master/laurea magistrale in Physics)
2019	Sapienza Università di Roma	Electromagnetism (Bachelor/laurea in Physics)
2018	Sapienza Università di Roma	Electromagnetism (Bachelor/laurea in Physics)
2017	Sapienza Università di Roma	Electromagnetism (Bachelor/laurea in Physics)
2016	Sapienza Università di Roma	Electromagnetism (Bachelor/laurea in Physics)
2015	Sapienza Università di Roma	Electromagnetism (Bachelor/laurea in Physics)
2014	Sapienza Università di Roma	Electromagnetism (Bachelor/laurea in Physics)
2011	Sapienza Università di Roma	Electromagnetism (Bachelor/laurea in Physics)
2018	SSAS Sapienza	Introduction to Artificial Intelligence and Machine Learning
2020	Sapienza Università di Roma	Metodi di Intelligenza Artificiale e Machine Learning in Fisica (Bachelor/laurea in Physics)
2018	Sapienza Università di Roma	Artificial Intelligence and Machine Learning (PhD in Physics)
2017	Sapienza Università di Roma	Artificial Intelligence and Machine Learning (PhD in Physics)
2016	Sapienza Università di Roma	Artificial Intelligence and Machine Learning (PhD in Physics)
2015	Sapienza Università di Roma	Artificial Intelligence and Machine Learning (PhD in Physics)
2014	Sapienza Università di Roma	Artificial Intelligence and Machine Learning (PhD in Physics)
2013	Sapienza Università di Roma	Artificial Intelligence and Machine Learning (PhD in Physics)
2012	Sapienza Università di Roma	Artificial Intelligence and Machine Learning (PhD in Physics)
2011	Sapienza Università di Roma	Advanced Analysis Techniques in High Energy Physics (PhD in Physics)
2010	Sapienza Università di Roma	Advanced Analysis Techniques in High Energy Physics (PhD in Physics)
2009	Sapienza Università di Roma	Advanced Analysis Techniques in High Energy Physics (PhD in Physics)
2008	Sapienza Università di Roma	Advanced Analysis Techniques in High Energy Physics (PhD in Physics)
2013	Sapienza Università di Roma	Fisica Generale 1 (laurea in Chimica)
2012	Sapienza Università di Roma	Fisica Generale 1 (laurea in Chimica)
2010	Sapienza Università di Roma	Fisica Generale (laurea in Biologia)
2009	Sapienza Università di Roma	Fisica Generale (laurea in Biologia)
1999-2009	Sapienza Università di Roma	assistant to several laboratory and exercise classrooms for students in Physics

#### Part V - Society memberships, Awards and Honors

Year	Title
2017	Award for “Excellent Teaching” from the department of Natural, Mathematics and Physics Sciences at Sapienza Università di Roma
>=2015	Member of the Italian Society of Physics (SIF)

2017	Recognized as “Top Italian Scientists in Experimental HEP & Astrophysics” (13 <sup>th</sup> position) and “Top Italian Scientists in all disciplines” (18 <sup>th</sup> position) by VIA/academy 2017
2013	Awarded as part of the ATLAS and CMS Collaborations with the EPS 2013 High Energy and Particle Physics Prize for an outstanding contribution to High Energy Physics (discovery of the Higgs boson)

## Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Obtained funding as Principal Investigator for ~360 kEuros in the last 6 years

Obtained funding as participant to several grant projects for ~1.7 MEuros in the last 10 years

Year	Title	Program	Grant value
2018	PI: A Scalable Artificial Intelligence system for Machine and Deep Learning Research and Training at Sapienza Università di Roma	Sapienza Grandi Scientifiche	300 kEuro
2018	PI: Sviluppo di algoritmi innovativi di Deep Learning per dati altamente sparsificati e applicazione all'identificazione di particelle prodotte nei decadimenti del bosone di Higgs negli esperimenti a LHC	Sapienza Fin. Ateneo	12.5 kEuro
2015	PI: Sviluppo e applicazione di nuove tecniche per la ricerca diretta ed indiretta di Materia Oscura	Sapienza Fin. Ateneo	9 kEuro
2013	PI: Sviluppo di algoritmi di analisi multivariata per la ricerca di segnali di Materia Oscura al Large Hadron Collider	Sapienza Fin. Ateneo	35 kEuro
2018	I: NEPTUNE “Nuclear process-driven Enhancement of Proton Therapy UNravEled”	INFN Comm. 5 Call	163 kEuro
2017	I: Filo Blu	Regione Lazio	696 kEuro
2012	I: GAP-RT	FIRB 2012-2016 (RBFR12JF2Z)	648 kEuro
2017	I: Sviluppo di un sistema innovativo per l'acquisizione e la selezione in tempo reale di eventi di segnali in esperimenti di ricerca diretta di Materia Oscura	Sapienza Fin. Ateneo	13.8 kEuro
2016	I: GPU deployment for pattern recognition based on machine learning algorithms for trigger systems in High Energy Physics - Utilizzo di GPU per la ricostruzione di pattern in sistemi di trigger per esperimenti di Fisica delle Alte Energie basati su algoritmi di apprendimento automatico	Sapienza Fin. Ateneo	15 kEuro
2014	I: Development of pattern recognition algorithms for a GPUs cluster in a energy effective real time environment	Sapienza Fin. Ateneo	13 kEuro
2012	I: Ricerca di nuova fisica a LHC, Large Hadron Collider	Sapienza Fin. Ateneo	12 kEuro
2011	I: Discovery of the Higgs Boson at the Large Hadron Collider	Sapienza Fin. Ateneo	80 kEuro
2010	I: Observation of the Higgs boson in muon final states with the ATLAS experiment at the LHC collider	Sapienza Fin. Ateneo	35 kEuro
2008	I: Aspetti teorici e sperimentali della fisica del sapore e deviazioni dal Modello Standard nell'era delle ricerche dirette di nuove particelle	Sapienza Fin. Ateneo	35 kEuro
2007	I: Aspetti teorici e sperimentali della fisica del sapore e deviazioni dal Modello Standard nell'era delle ricerche dirette di nuove particelle	Sapienza Fin. Ateneo	35 kEuro

## Part VII – Research Activities

My scientific activity since 1989 has been focused in the experimental investigation of the nature of the fundamental interaction, and developed mainly through the participation to the design and running of the experiments L3 at the LEP  $e^+e^-$  collider (1989-2000), CDF at the Tevatron  $p\text{-}\bar{p}$  collider (1999-2012), ATLAS at the LHC  $pp$  collider (2006-today), and, DarkSide experiment at the LNGS laboratory of INFN (2014-2018).

In parallel with this activity since the mid-90s I have also strongly contributed in both the experimental application and development of modern Machine Learning, Deep Learning and Artificial Intelligence techniques, in several research contexts (high-energy physics, astro-particle physics, statistical physics, applications in medical imaging, decision theory).

In my research work I have contributed substantially and in first person to three of the most important results in physics of the last 20 years: the discovery of the Higgs boson at LHC (2011-12), to the first observation of the mixing of the Bs meson at Tevatron (first half of years 2000), and to the precise determination of the number of light neutrino families at LEP (years 1990-1995).

### Keywords

Higgs Boson Discovery  
at LHC

### Brief Description

In years 2010-2012 I have been the Physics Coordinator of the ATLAS-Italy community (+100 people). In this context I have coordinated and guided the analysis effort carried on by the ATLAS Italian groups in the search for the Higgs boson with the ATLAS experiment at LHC. At the same time I have been involved in first person as one of the main analysers in the ATLAS  $H \rightarrow ZZ \rightarrow 4l$  subgroup of the ATLAS experiment, giving substantial contributions in the design and realisation of the  $H \rightarrow 4l$  analysis and, after the discovery of the Higgs boson, in the design and realisation of the first analyses that measured the spin-CP quantum numbers of the newly discovered particle. This work resulted first in the evidence then in the observation of a new particle consistent with the Higgs boson of the Standard Model.

### Bs Mixing Discovery

In years 2005-2006 I have been the Physics Coordinator of the B physics group of the CDF experiment at Tevatron, responsible for overseeing and guiding the heavy flavor physics program of the CDF-2 experiment, and coordinating a group of more than 150 people. In this context I had the possibility to co-convene the group in the very intense and exciting times that led to the first observation and measurement of the flavor oscillation in the Bs meson system. One of the most important and challenging measurements of the Tevatron-II physics programme which held occupied multiple experiments from the end of the 80' to the 2005. In addition to the coordination of the group I have been involved in first person in the development of the analysis tools (I have been the CDF responsible for the particle identification using  $dE/dx$  and TOF, for the development of the flavor tagging algorithms, and for the design of the B and D meson reconstruction software framework).

### Measurement of the number of light neutrino families

During my degree and PhD years, I have substantially contributed to the measurement of the number of species of light ( $m < M_Z/2$ ) neutrinos, one of the free parameters of the Standard Model that, at that time, was only slightly constrained from cosmological and astrophysical observations. I worked as main analyser in the determination based on the single photon technique, and contributed also at the combined results obtained from the line-shape measurements carried on during the LEP runs at center of mass energies around the Z boson resonance. During years from 2001 to 2005 I have been the responsible for the day-by-day reconstruction of the events of the single-photon stream, for the simulation and production of the single-photon data, and for the writeup of the physics publications.

Other notable achievements:	DarkSide experiment:	
	-	design of the High Level Software Trigger (HLST) trigger system, and of the offline computing model for the DarkSide-20k experiment;
	ATLAS experiment:	
	-	design and realisation of the L2 muon trigger algorithms;
	-	design and development of novel real-time trigger algorithms on GPUs and FPGAs for the HL-LHC upgrade;
	-	development of novel multivariate and machine learning analysis techniques to maximize the discovery potential for exotic signals from long-lived particles, in the search for DarkMatter signals, and to optimise the measurements of the Higgs boson properties
	CDF experiment:	
	-	design and development of the Time-of-Flight detector;
	-	development of the monitoring of the Secondary Vertex Trigger (SVT);
	-	responsible of the charged particles identification based on dE/dx measured in the central tracking detector;
	-	design and realisation of the official reconstruction and analysis software for the B and charm physics analyses
	AI and Machine Learning:	
	-	strongly involved in the design and application of machine learning, and deep neural networks for real-time triggering in particle and astro-particle experiments. I pioneered the use of multivariate techniques in the first years of 90s to improve analysis sensitivity in collider experiments, and contributed to the development of several MVA algorithms that are widely used today (kernel methods, BDT, DNN, VAE)
-	I developed and spread the use and application of machine learning and deep learning methods in the research activities in the physics department and in the INFN section	
-	trained students and researchers in the physics department to use and understand the most modern techniques related to Artificial Intelligence and Machine Learning	

## Part VIII – Summary of Scientific Achievements

I'm author of more than 1500 scientific papers published in peer reviewed international journals (1554 refereed papers, database Scopus, August 18th, 2019). I have been among the main authors and substantially contributed to the results and the writing of the paper for more than 100 of these publications, and for a similar number I have heavily contributed at the reported results with physics studies or by the development of analysis tools extensively used in the result.

Product type	Number	Data Base	Start	End
Papers [international]	1554	Scopus	1992	2019
Papers [international]	1377	Scopus	Last 15 years	



	<b>Whole Scientific prod.</b>	<b>Last 15 years scientific prod.</b>
Total Impact factor	10190.8 (Web of Science)	9145.1 (Web of Science)
Average Impact Factor	4.9 (Web of Science)	5.0 (Web of Science)
Total Citations	67711 (Scopus)	65341 (Scopus)
Average Citations per Product	43.6 (Scopus)	47.5 (Scopus)
Hirsch (H) index	106 (Scopus)	106 (Scopus)
Normalized H index*	3.93 (Scopus)	3.93 (Scopus)

\*H index divided by the academic seniority (27 years)

## Part IX– Selected Publications for the evaluation with personal contributions to each publication

1. *WIMP Dark Matter Searches With the ATLAS Detector at the LHC*,  
S. Giagu, Front. Phys. 7:75 (2019)  
Journal IF: 1.9

personal contributions to this work:

Invited review of the current status of searches for WIMP Dark Matter in the ATLAS Experiment. I wrote the entire paper, reviewed and critically analysed \ the theory status and the ATLAS results produced during Run-1 and Run-2 of HLC. Represents one of the most complete summaries of WIMP Dark Matter results from the ATLAS experiment to date.

2. *Search for dark matter and other new phenomena in events with an energetic jet and large missing transverse momentum using the ATLAS detector*,  
ATLAS Collaboration, JHEP 01 (2018) 126, arXiv:1711.03301 [hep-ex]  
Journal IF: 4.807

personal contributions to this work:

I participated to the analysis as one of the main analysers in the ATLAS mono-jet group. I proposed and implemented the improved fitting technique that exploited the shape of the missing transverse momentum distribution to maximize discovery sensitivity at low and high masses. I supervised a PhD (G. Gustavino), and one MSc degree student (G. Frattari) that worked on this ATLAS analysis. The results of this analysis documented in G. Gustavino PhD thesis have been awarded with the Recognized Outstanding Ph.D Research price from Springer Editor, and has been published by Springer Nature. I'm among the authors of the ATLAS supporting note for this analysis.

3. *DarkSide-20k: A 20 tonne two-phase LAr TPC for direct dark matter detection at LNGS*, DarkSide Collaboration,  
Eur. Phys. J. Plus (2018) 133: 131, arXiv:1707.08145 [physics.ins-det]  
Journal IF: 1.919

personal contributions to this work:

I participated to the design of the DarkSide-20k detector and in the writeup of the paper as one of the editors. In particular I have been responsible for the design and documentation of the proposed trigger system and for the offline computing system of the DarkSide-20k experiment.

4. *Low-Mass Dark Matter Search with the DarkSide-50 Experiment*,  
DarkSide Collaboration, Phys. Rev. Lett. 121, 081307 (2018), arXiv:1802.06994 [astro-ph.HE]  
Journal IF: 7.888

personal contributions to this work:

I participated in first person to the design and day by day analysis work needed to perform the low mass analysis. Specifically I contributed in the studies needed to understand and parametrize the different components of the excitation signal (S2) in the low recoil mass regime, and in the statistical analysis and interpretation of the results.

5. *Search for new phenomena in dijet events using 37 fb(-1) of pp collision data collected at root s=13 TeV with the ATLAS detector*,  
ATLAS Collaboration, Phys. Rev. D 96, 052004 (2017), arXiv:1703.09127 [hep-ex]  
Journal IF: 3.797

personal contributions to this work:

I participated to the analysis as one of the main analysers in the ATLAS di-jet group. My main contribution has been the interpretation of the experimental results in the context of a  $Z'$  mediator model. I supervised a PhD student (S. Francescato), that worked on this analysis as one of the day by day analysers. I'm among the authors of the ATLAS supporting note for this analysis.

6. *Search for new phenomena in dijet mass and angular distributions from pp collisions at root s=13 TeV with the ATLAS detector*,  
ATLAS Collaboration, Physics Letters B 754 (2016) 302-322, arXiv:1512.01530 [hep-ex]  
Journal IF: 3.968

personal contributions to this work:

I participated to the analysis as one of the main analysers in the ATLAS di-jet group. I studied the possibility to extend the mass and coupling explored range by exploiting angular correlations between the jet. I supervised a MSc student (S. Francescato), that worked on this ATLAS analysis as day by day analysers. I'm among the authors of the ATLAS supporting note for this analysis.

7. *Search for a CP-odd Higgs boson decaying to Zh in pp collisions at  $s\sqrt{=8}$  TeV with the ATLAS detector*,  
ATLAS Collaboration, Physics Letters B 744 (2015) 163-183, arXiv:1502.04478 [hep-ex]  
Journal IF: 3.968

personal contributions to this work:

I participated to this analysis as one of the main analysers in the ATLAS BSM Higgs group. I proposed and implemented a new machine learning based technique to improve the invariant mass resolution in presence of leptonic tau decays in the final state, that allowed to substantially improve the discovery sensitivity for pseudoscalar higgs bosons. I supervised the work of 2 MSc students (L.S. Bruni and F. Giuli) that worked in the day by day analysis of the ATLAS data for this search and participated to the writing/editing of both the supporting note and the ATLAS paper.

8. *Search for new phenomena in final states with an energetic jet and large missing transverse momentum in pp collisions at root s=8 TeV with the ATLAS detector*,  
ATLAS Collaboration, Eur. Phys. J. C (2015) 75:299, arXiv:1502.01518 [hep-ex]  
Journal IF: 4.545

personal contributions to this work:

I participated to the analysis as one of the main analysers in the ATLAS mono-jet group. I proposed and implemented the improved fitting technique that exploited the shape of the missing transverse momentum distribution to maximize discovery sensitivity at low and high masses, that has been used in this and all the following mono-jet searches by ATLAS experiment. I supervised the work performed by two MSc degree students (V. Fabiani and C. Sebastiani) and of a post-doctoral student (V. Ippolito) that worked on day by day tasks related to this ATLAS analysis. I'm among the authors of the ATLAS supporting note for this analysis.

9. *Search for long-lived neutral particles decaying into lepton jets in proton-proton collisions at root s=8 TeV with the ATLAS detector*,  
ATLAS Collaboration, JHEP11(2014)088, arXiv:1409.0746 [hep-ex]  
Journal IF: 4.807

personal contributions to this work:

I participated as main analyser in all the steps of this analysis in the ATLAS exotic group. I proposed and implemented the methodology used to reconstruct lepton-jets from dark photon displaced decays in the ATLAS detector, wrote the analysis software and statistical tools used to perform the analysis, wrote the interpretation tools needed to cast the experimental results as exclusions in the Vector Portal model. I have been main editor of the ATLAS paper and of the supporting internal ATLAS documentation. I supervised the work performed by two MSc degree students (A. Castelli and A. Gabrielli) that worked on day by day tasks related to this ATLAS analysis.

10. *Measurement of the Higgs boson mass from the  $H\rightarrow\gamma\gamma$  and  $H\rightarrow ZZ^*\rightarrow 4\ell$  channels with the ATLAS detector using 25 fb<sup>-1</sup> of pp collision data*,  
ATLAS Collaboration, Phys. Rev. D 90, 052004 (2014), arXiv:1406.3827 [hep-ex]  
Journal IF: 3.797

personal contributions to this work:

I participated as main analyser in all the steps of this analysis in the ATLAS Higgs group. I have been among the authors of the supporting internal ATLAS documentation. I supervised the work performed by a PhD student (V. Ippolito) that worked on day by day tasks related to this ATLAS analysis as main contributor in the ATLAS  $H\rightarrow ZZ\rightarrow 4\ell$  analysis group.

11. *Measurements of Higgs boson production and couplings in diboson final states with the ATLAS detector at the LHC*,  
ATLAS Collaboration, Phys. Lett. B 726 (2013) 88, arXiv:1307.1427 [hep-ex]

Journal IF: 3.968

personal contributions to this work:

I participated as main analyser in all the steps of this analysis in the ATLAS Higgs group. I have been among the authors of the supporting internal ATLAS documentation. I supervised the work performed by a PhD student (V. Ippolito) and one MSc student (G. Gustavino) that worked on day by day tasks related to this analysis in the ATLAS  $H \rightarrow ZZ \rightarrow 4l$  analysis group.

12. *Evidence for the spin-0 nature of the Higgs boson using ATLAS data*,  
ATLAS Collaboration, Phys. Lett. B 726 (2013) 120, arXiv:1307.1432 [hep-ex]  
Journal IF: 3.968

personal contributions to this work:

I participated as main analyser in all the steps of this analysis in the ATLAS Higgs group. I proposed and implemented the fitting model for the novel analysis technique needed to probe the tensor structure in the  $HZZ$  vertex based on the angular analysis of the final state leptons in the  $H \rightarrow ZZ \rightarrow 4l$  channel. I have been among the authors of the supporting internal ATLAS note and directly participated to the editing of the ATLAS paper. I supervised the work performed by a PhD student (V. Ippolito) and one MSc student (G. Gustavino) that worked on day by day tasks related to this ATLAS in the ATLAS  $H \rightarrow ZZ \rightarrow 4l$  analysis group.

13. *Search for a light Higgs boson decaying to long-lived weakly-interacting particles in proton-proton collisions at  $s\sqrt{=7}$  TeV with the ATLAS detector*,  
ATLAS Collaboration, Phys.Rev.Lett. 108 (2012) 251801, arXiv:1203.1303 [hep-ex]  
Journal IF: 7.888

personal contributions to this work:

I participated as main analyser in all the steps of this analysis in the ATLAS exotic group. I proposed and implemented the methodology used to reconstruct lepton-jets from dark photon displaced decays in the ATLAS detector, wrote the analysis software and statistical tools used to perform the analysis, wrote the interpretation tools needed to cast the experimental results as exclusions in the Vector Portal model. I have been main editor of the ATLAS paper and of the supporting internal ATLAS documentation. I supervised the work performed by two MSc degree students (M. Bettiol and V. Rossetti) that worked on day by day tasks related to this ATLAS analysis.

14. *A Particle Consistent with the Higgs Boson Observed with the ATLAS Detector at the Large Hadron Collider*,  
ATLAS Collaboration, Science 338 (2012) 1576-1582  
Journal IF: 40.627

personal contributions to this work:

I have been among the main actors in the ATLAS experiment in the discovery of the Higgs boson in the  $H \rightarrow ZZ \rightarrow 4l$  decay mode. I participated as main analyser in all the steps of this analysis in the ATLAS Higgs group. I specifically contributed in the estimate of the  $ZZ$  continuum background and in the optimization of the electron and muon quality requirements. I have coordinated the ATLAS-Italy group involved in the discovery analysis, and participated in the writing of the  $H \rightarrow ZZ \rightarrow 4l$  internal documentation. I supervised the work performed by a PhD student (G. Artoni) performed for the  $H \rightarrow ZZ \rightarrow 4l$  result.

15. *Search for  $B-s(0) \rightarrow \mu(+) \mu(-)$  and  $B-0 \rightarrow \mu(+) \mu(-)$  Decays with CDF II*,  
CDF Collaboration, Phys.Rev.Lett 107, 191801 (2011), arXiv:1107.2304 [hep-ex]  
Journal IF: 7.888

personal contributions to this work:

I have been among the main authors of this CDF result. I participated in all analysis steps and proposed and implemented the multivariate analysis technique based on neural network used to substantially reduce the combinatorial background. I have coordinated the CDF B-physics group that oversees the whole analysis and participated to the writing of both the CDF paper and analysis documentation.

16. *Flavor physics in the quark sector*,  
M. Antonelli et al. (140 authors), Phys.Rept.494:197-414,2010, arXiv:0907.5386 [hep-ph]  
Journal IF: 21.477

personal contributions to this work:

I have been among the organizers of the CKM conference and one of the main editors and writers of this summary of the status of heavy flavour physics in the year 2009-2010. In particular I have been responsible of writing the experimental primer and the Bs physics chapter.

## Part X– Outreach and Science Communication

Year	Brief Description
2019	Writer and editor of the Volume 27 of the Asymmetry Magazine of INFN (article: The Artificial Intelligence Algorithms)
2018-2019	Participation to the Art & science across Italy outreach project
2018	General public seminar: "Introduction to Machine Learning and Artificial Intelligence", Seminars Of Computational Science, Kitsune Research Project (at Sapienza)
2018	General public Seminar: "L'intelligenza artificiale e il futuro del lavoro", Festival Science Connection Project
2013-2018	Teacher of preparatory courses for high school students for the Olimpiadi della Fisica OLIFIS
2016	General public seminar for high school students on Dark Matter (Convitto Nazionale, Roma)
2007-2010	CERN Guide for teachers and students visits
2006	Scientist at Notte Europea della Ricerca (scuderie del Quirinale)

## Part XI– Seminars and conference talks

1. New methods for the estimation of the background in proportional counters used in spacecraft experiments – contributed talk at SPIE Conference (San Diego, USA, 1992);
2. Measurement of the number of Neutrino Families with single photon method with the L3 experiment at LEP – invited plenary talk at GeLEP (Genova, IT, 1995);
3. Single Photon Physics with L3 experiment at LEP – contributed talk APS05 (Washington DC, USA, 1995);
4. Search for Supersymmetric particles with the L3 detector at LEP – invited talk at DPF06 (Minneapolis, USA, 1996);
5. Search for SUSY at LEP – invited plenary talk at Pi-LEP (Pisa, IT, 1997);
6. The CDF TOF system and B flavor tagging in CDF – invited plenary talk at BEAUTY 2002 (Santiago de Compostela, Spain, 2002);
7. Heavy Flavor Physics at CDF – invited plenary talk at the symposium "To B or not to B?", Commissione Nazionale 1 INFN (Frascati, IT, 2003);
8. New results from Heavy Flavor Physics at CDF – invited seminar, Physics Department University of Rome (Roma, IT, 2003);
9. Charm and Beauty Physics at CDF – invited HEP seminar, University of Wisconsin (Madison, USA, 2003);
10. Results on CP Violation from CDF – contributed talk HEP-EuroPhysics EPS03 (Aachen, Germany, 2003);
11. Charm and Beauty Physics - invited lessons at 8th Hellenic School on Elementary Particle Physics (Corfu, GR, 2005);
12. Charm and Beauty Physics at the Tevatron Collider - invited plenary talk at Frontier Science (Milano, IT, 2005);
13. Il Triangolo di unitarietà all'inizio dell'era LHC: abbiamo capito tutto?, - thematic seminar (in italian) on the scientific activities in the Rome Dep. of Physics (Roma, IT, 2006);
14. Strategies for B and charm physics at Tevatron - close-out talk at the CDF collaboration week, (Isola D'Elba, IT, 2006);
15. - Measurement of the frequency of the flavor oscillations of Bs meson"- invited department seminar, Univ. of Rome, (Roma, IT, 2006);
16. Bs mixing measurement at CDF - invited talk at ICHEP 2006, (Moscow, Russia, 2006);
17. New Physics with Bs - invited plenary talk at C2CR07, (lake Tahoe, USA, 2007);
18. Heavy B Hadrons - invited plenary talk at Physics In Collisions 2008, (Perugia, IT, 2008);
19. Search for long lived particles in ATLAS and CMS - contributed talk at ICHEP 2008 (Philadelphia, USA, 2008);
20. Results from the ATLAS experiment at LHC: Mass 2011 conference (Odense, DK, 2011).
21. Standard Model and Higgs physics at LHC: seminar at the "pomeriggi tematici INFN" (Roma, IT, 2011).
22. Exotic searched in ATLAS, invited talk at Interpreting LHC discoveries Conference at GGI (Florence, IT, 2011)
23. ATLAS Results on the search for the Higgs boson: Department seminar Sapienza Univ. of Rome (Rome, IT, 2011)
24. Stato della ricerca del bosone di Higgs con l'esperimento ATLAS a LHC, Seminario Sezione INFN Roma1 (Roma, 22.12.2011)
25. Risultati Recenti Esperimento ATLAS a LHC, invited talk Società Italiana di Fisica XCVIII Congresso Nazionale (Napoli, 17.9.2012)
26. Beyond the Pure State Hypothesis: Higgs to ZZ tensor vertex structure, invited talk ATLAS Higgs Workshop (Orsay, FR, 11.10.2012)
27. Misura delle proprietà del bosone di Higgs, invited talk, Workshop ATLAS Italia (Lecce, 23.10.2012)
28. Exotic Higgs decays at ATLAS, Dark Interactions Workshop 2014 (Brookhaven National Laboratory, USA, 11-13.6.2014)
29. Long-lived particles searches at hadron colliders, invited talk, International conference DHPF2014 (Messina, IT, 24-26.9.2014)
30. Particelle esotiche con lunga vita media messaggere di effetti di nuova fisica: stato delle ricerche con l'esperimento ATLAS a LHC, Seminario INFN-Fisica Particelle Elementari (Roma, IT, 23.2.2015)
31. Search for long-lived particles at LHC, invited talk, International Workshop Light Dark Matter search@Accelerators (LDMA2015) (Camogli, IT, 24-26.6.2015)
32. Long Lived Particles at ATLAS, LHC Long Lived Particle Workshop, invited talk (CERN, May 12 2016)

33. Higgs and New Physics at ATLAS and CMS, invited talk, 55th. International Winter Meeting on Nuclear Physics (Bormio, IT, 23-27.1.2017)
34. Results on flavor anomalies at ATLAS and CMS, ALPS 2018 Conference (Oberurgl, AUS, 15-20.4.2018)
35. L'intelligenza artificiale e il futuro del lavoro, Festival Science Connection Project, 30 Maggio 2018, Sapienza UoR
36. Introduction to Machine Learning and Artificial Intelligence", Seminars of Computational Science, Kitsune Research Project, 29 Novembre 2018, Sapienza UoR.
37. ATLAS Searches and plans for signals from DarkSectors Models, LHC DM Open Workshop (CERN, 23.6.2018)
38. ATLAS results overview with focus on Dark Matter, Dark Matter and Weak Interaction Conference (DARKWIN) (Natal, BR, 2-13.9.2019)
39. Fast and resource-efficient Deep NN on FPGAs for the Phase-II L0 Muon Barrel Trigger of the ATLAS Experiment, 24th International Conference on Computing in High Energy and Nuclear Physics (CHEP2019) (Adelaide, AU, 4-8.11.2019)

## Part XII– Organization of conferences/work-shops:

1. Chair organizing committee: “CDF Experiment Heavy Flavor Trigger Workshop”, (FNAL, USA, 2003)
2. Co-chair session of Flavor Physics ICHEP04 (Beijing, China, 2004);
3. Co-chair session of Flavor Physics IFAE06 (Pavia, IT, 2006);
4. Organizing committee of the CKM08, (Roma, IT, 2008);
5. Organizing committee of the IFAE 2010 (Roma, IT, 2010).
6. Chair of the organizing committee of the ATLAS Physics Analysis Workshop (CERN 29.9.2010)
7. Chair of the organising committee of the ATLAS Workshop on Long Lived Particles (Roma, 7-8.4.2011)
8. Organizing committee ATLAS Italia annual Workshops from 2011 to 2016;
9. Organizing committee ATLAS Workshop on Searching for Exotic Hidden Signatures with ATLAS in LHC Run2 (Cosenza, February 9-11 2016)
10. Organizing committee LHC Long Lived Particle Workshop (CERN, May 12 2016)
11. Organizing committee Search for Long Lived Particles at LHC Workshop (CERN, April 24-26 2017)
12. Organizing committee and local organisers of the ATLAS Exotic Workshop in Rome (Rome, IT, May 2018)

## Part XIII– Thesis Supervision:

MSc thesis:

1. Dr. S. Vallecorsa: “Reconstruction of D meson decays in fully hadronic final state with the CDF detector” (Roma, 2001);
2. Dr. G. Salamanna: “TOF resolution studies using muons from J/psi” (Roma, 2003);
3. Dr. C. Maiani: “Tuning of the Level-2 muon isolation triggers in ATLAS” (Roma, 2008);
4. Dr. V. Rossetti: “Trigger per la selezione di eventi con particelle esotiche neutre a lunga vita nell'esperimento Atlas” (Roma, 2008)
5. Dr. G. Artoni: “Studio di algoritmi per la selezione di muoni dai decadimenti di  $\pi$  e K al secondo livello del trigger dei muoni del rivelatore ATLAS a LHC” (Roma, 2009);
6. Dr. V. Ippolito: “Reconstruction of J/psi  $\rightarrow$   $\mu\mu$  with the ATLAS detector” (Roma, 2009);
7. Dr. M. Bettiol: “Search for LeptonJets in the  $h \rightarrow \gamma d \bar{d} \rightarrow 4\mu$  decay mode with ATLAS at LHC” (Roma, 2010);
8. Dr. E. Benhar Noccioli: “Studio e messa a punto delle prestazioni dell'algoritmo di ricostruzione di muoni combinati al secondo livello di trigger dell'esperimento ATLAS” (Roma, 2010);
9. Dr. V. Candelise: “Studio e messa a punto delle prestazioni dell'algoritmo di ricostruzione muonica e di isolamento al secondo livello di trigger dell'esperimento ATLAS” (Roma, 2010);
10. Dr. P. Pani: “Ricerca del segnale protone-antiprotone  $\rightarrow$  WZ  $\rightarrow$  lnu b $\bar{b}$  con l'esperimento CDF al Tevatron” (Roma, 2011)
11. Dr. A. Castelli: “Search for Hidden Valley decays in LeptonJets” (Roma, 2011);
12. Dr. A. Gabrielli: “Ricerca del bosone di Higgs in modelli Hidden Valley con l'esperimento ATLAS a LHC” (Roma, 2011);
13. Dr. S. Mariani: “Misura della vita media degli adroni con b-quark nei canali di decadimento J/ $\psi \rightarrow \mu\mu$  con il rivelatore ATLAS a LHC” (Roma, 2011);
14. Dr. I. Angelozzi: “Ottimizzazione dei criteri di isolamento muonico utilizzati nel sistema di trigger dell'esperimento ATLAS al CERN” (Roma, 2011);
15. Dr. R. Donnarumma: “Ricerca del bosone di Higgs nel canale di decadimento  $H \rightarrow ZZ \rightarrow 2l2q$  con tecniche di analisi multivariata nell'esperimento ATLAS a LHC” (Roma, 2012);
16. Dr. G. Gustavino: “Studio della violazione di CP nel settore dell'Higgs con l'esperimento ATLAS” (Roma, 2013);
17. Dr. F. Giuli: “Ricerca di segnali da bosoni di Higgs pseudoscalari addizionali tramite l'esperimento ATLAS a LHC” (Roma, 2014);
18. Dr. L.S. Bruni: “Ricerca di un bosone di Higgs pseudoscalare nel canale di decadimento  $A \rightarrow Zh \rightarrow l\tau$  con l'esperimento ATLAS a LHC” (Roma, 2014);
19. V. Di Cicco: “Misura della massa del Bosone di Higgs nel canale di decadimento  $H \rightarrow \text{gammap}$  con l'esperimento ATLAS a LHC” (dissertazione laurea triennale, Roma, 2014)
20. Dr. V. Fabiani: “Ricerca di Materia Oscura in eventi con jet adronici ed energia trasversa mancante con l'esperimento ATLAS a LHC” (Roma, 2015);

21. Dr. C. Sebsatiani: "Ricerca di Materia Oscura in topologie mono-jet con tecniche multivariate di analisi con l'esperimento ATLAS a LHC" (Roma, 2016);
22. Dr. S. Francescato: "Search for new phenomena in dijet mass and angular distributions from pp collisions at  $\sqrt{s} = 13$  TeV with the ATLAS detector" (Roma, 2017);
23. G. Frattari: "Ricerca di Materia Oscura in topologie mono-jet con l'esperimento ATLAS" (Roma, 2018)
24. L. Sabetta: "Sviluppo di Deep Neural Network su FPGA per il trigger muonico dell'esperimento ATLAS" (Roma, 2018)
25. I. Longarini: "Simulazione veloce di Jet adronici con Generative Adversarial Networks" (Roma, 2018)
26. F. Luzi: "Ricerca di nuove particelle a lunga vita media predette in modelli con settori nascosti" (Roma, 2019)
27. L. Badiali: "Reinforcement Learning visuale con goal autogenerati e applicazioni fisiche" (Roma, ongoing)
28. A. Sbandi: "Deep variational Autoencoders for denoising of MRI images with 19F" (Roma, ongoing)
29. G. Padovano: "Search for Dark Matter through invisible decays of the Higgs boson produced in VBF processes" (Roma, ongoing)
30. G. Alhora: "Artificial Intelligence and Deep Learning applications for the identification of Long-Lived particles with the ATLAS detector at LHC" (Rome, ongoing)
31. E. Pompa Pacchi: "Re-interpretation of the mono-Jet analysis of the ATLAS experiment in the context of Dark Sector Models" (Rome, ongoing)
32. R. Mottarelli: "Search for new phenomena in dijet mass and angular distributions with the ATLAS experiment in Run2" (Roma, ongoing)
33. F. Riti: "Ultra-fast Artificial Intelligence for real time reconstruction of muons in the ATLAS experiment at HL-LHC" (Rome, ongoing)
34. G. Salvi: "Sviluppo algoritmi innovativi per la selezione in tempo reale (trigger) di nuove particelle neutre di lunga vita media predette da modelli di fisica con settori nascosti con l'esperimento ATLAS a LHC" (Università de Geneve + Rome co-tutoring, ongoing)
35. A. Lanteri: "Optimizing two-point correlation statistics using machine learning techniques in new-generation spectroscopic surveys of galaxies" (European Space Agency + Rome co-tutoring, ongoing)
36. A. Cacioppo: "Tecniche innovative di machine learning per la ricostruzione dell'hamiltoniana di un cristallo" (Max Plank Institute for Intelligent Systems + Roma co-tutoring, ongoing)

PhD thesis:

1. Dr. S. De Cecco: "Measurement of relative branching fractions for D0 meson Cabibbo suppressed hadronic decays, from the CDF secondary vertex trigger sample at the Tevatron collider" (Roma, 2003);
2. Dr. K. Giolo: "B meson lifetimes determination in fully hadronic decays" (Purdue USA, 2005);
3. Dr. M. Donegà: "Measurement of the lifetime and  $\Delta\Gamma$ 's of the Bs meson in the decay mode  $B_s \rightarrow hh$ , with the CDF detector" (Ginevra, 2005);
4. Dr. G. Salamanna: "Measurement of Bs oscillations at CDF" (Roma, 2006);
5. Dr. C. Maiani: "Production x-sections and lifetime determination of  $b \rightarrow J/\psi X \rightarrow \mu\mu X$ " (Roma, 2011);
6. Dr. G. Artoni: "Search for  $H \rightarrow ZZ \rightarrow 4\mu$  with the ATLAS detector" (2012);
7. Dr. V. Ippolito: "Measurement of the Higgs boson properties with the ATLAS detector" (2013);
8. Dr. G. Gustavino: "Search for New Physics in Mono-jet Final States in pp Collisions" (Roma, 2016);
  - a. The work done with Gustavino won the Recognized Outstanding Ph.D Research price from Springer Editor, and has been published by Springer Nature: DOI: 10.1007/978-3-319-588871-1
9. Dr. C. Sebastiani: "Ricerca di nuove particelle a lunga vita media predette in modelli con settori nascosti" (Roma, ongoing).
10. Dr. S. Francescato, "Search for new phenomena in dijet mass and angular distributions with the ATLAS experiment in Run2" (Roma, ongoing)
11. Dr. G. Frattari: "Search for New Physics in Mono-jet topologies in pp collisions" (Roma, ongoing)
12. Dr. L. Sabetta: "Ricerca di decadimenti invisibili del bosone di Higgs nel canale di produzione VBF con l'esperimento ATLAS" (Roma, ongoing)
13. Dr. I. Longarini: "Ricerca di dark-photon e applicazioni in hep di DeepLearning" (Roma, ongoing)

LAUREATA IN GIURISPRUDENZA (VECCHIO ORDINAMENTO) CON VOTAZIONE 100 su 110;

LAVORA DAL 1992 PRESSO L'INFN SEZ.ROMA;

DAL 1992 AL 2007 PRESSO IL SETTORE CONTRATTI DELLA SEZIONE DI ROMA

DAL 2008 RICOPRE IL RUOLO DI RESPONSABILE AMMINISTRATIVO DELLA SEZIONE DI ROMA

DAL 2013 RICOPRE IL RUOLO DI RESPONSABILE AMMINISTRATIVO DELLA SEZIONE DI ROMA E DI ROMA3

INQUADRAMENTO LAVORATIVO: FUNZIONARIO AMM.VO IV LIVELLO