

**BREVE CURRICULUM ATTIVITÀ SVOLTA**  
**Rossana Chiaratti**

L'attività svolta per il Servizio di Direzione della Sezione di Padova di cui faccio parte ha riguardato principalmente lavori di segreteria scientifica per i Gruppi I, II e V, supporto organizzativo per il coordinatore di Gruppo I, organizzazione di seminari, riunioni e trasferte per gli afferenti ai vari esperimenti scientifici, compilazione dei preventivi scientifici, gestione degli ospiti italiani e stranieri.

Dal 1990 al 1996 ho coadiuvato l'attività del prof. Alessandro Bettini quale membro della Giunta Esecutiva dell'INFN e Vice-Presidente dal 1994 al 1996.

Dal 2004 all'agosto 2011 ho coadiuvato l'attività del dott. Umberto Dosselli quale membro della Giunta Esecutiva dell'INFN e Vice-Presidente dal 2008 al 2011.

Dal 2005 ad oggi, svolgo attività di segreteria della Commissione Calcolo e Reti, attività riconfermata dai diversi Presidenti nominati (dott. M. Morandin, prof. M. Paganoni, dott. C. Grandi, dott. A. Brunengo), occupandomi tra l'altro dell'organizzazione delle riunioni periodiche di bilancio e dei Workshop annuali di CCR nelle diverse sedi in Italia.

Dal 2009 ad oggi faccio parte del Management Committee della Scuola Internazionale INFN "ESC Efficient Scientific Computing" che si svolge annualmente presso il CeUB di Bertinoro e, da quest'anno, anche a SESAME (Giordania).

Ho curato l'organizzazione di conferenze e workshop, nazionali e internazionali, occupandomi dei bilanci preventivi e consuntivi, sito web e modulo di registrazione, contatti con gli sponsor, stesura dei capitolati e relative trattative con i vari fornitori di servizi (location, catering, attrezzature audio-video, eventi sociali) corrispondenza con i partecipanti, stesura dei booklet, aspetti logistici in loco e, per la conferenza QM2018, emissione delle ricevute fiscali relative alla quota di iscrizione. Di seguito le più recenti:

- HEPIX Spring 2013 (Bologna, 14-19 aprile 2013)
- ALICE Physics Week (Padova, 19-24 maggio 2013)
- INFN 2014 (Padova, 24-26 marzo 2014)
- ENUBET Kick-off Meeting (Padova, 23-24 giugno 2016)
- SIF, 102° Congresso Nazionale (Padova, 26-30 settembre 2016)
- Prospettive di Applicazioni Industriali per la Tomografia Muonica (24 novembre 2017)
- European Physical Society on High Energy Physics Conference (Lido di Venezia, 5-12 luglio 2017) – circa 970 partecipanti
- Quark Matter 2018 (Lido di Venezia, 13-19 maggio 2018) – 855 partecipanti
- 2<sup>nd</sup> AMICI Industry Forum (Bruxelles, 17-18 settembre 2019)
- IFIPAE (25-26 novembre 2021)

In qualità di Rappresentante del Personale Tecnico Amministrativo della Sezione di Padova (l mandato dal 15/7/2016, il mandato dal 1/08/2020) partecipo alle riunioni del Consiglio di Sezione e alle assemblee nazionali. Ho fatto parte del GdL promotore del progetto What Next TTA in seno all'assemblea nazionale dei Rappresentanti del Personale TTA, la cui attività aveva lo scopo di migliorare la qualità del lavoro tecnico e amministrativo attraverso la condivisione delle buone prassi, l'ottimizzazione di quelle esistenti, il recupero e la condivisione delle competenze non utilizzate, l'uniformazione delle procedure. Nell'ambito di questa attività sono stata promotrice e coordinatrice del progetto GOCCE (Gruppo Organizzazione Congressi e Conferenze), per creare un gruppo specializzato nell'organizzazione di eventi, costituito da personale dell'Ente che svolge abitualmente questa attività.

Dal 2017 collaboro con il gruppo Team Web della Sezione di Padova che ha progettato e realizzato il nuovo sito web di Sezione. In particolare ho sviluppato tutta la parte relativa al Servizio Amministrativo, curando particolarmente la catalogazione della documentazione utile (circolari, manualistica, ecc.) tramite tag su Alfresco ([https://www.pd.infn.it/it/servizio\\_amministrazione/](https://www.pd.infn.it/it/servizio_amministrazione/)).

Da giugno 2020 collaboro con il Gruppo Audit sulla Sicurezza Informatica e GDPR: l'attività indirizzata a verificare l'adeguamento delle strutture e dei Gruppi Collegati INFN, di AC, dei SS.NN., Sistema Informativo, ecc. alle normative vigenti in materia, consiste nel pianificare il calendario annuale, convocare le riunioni in accordo con la disponibilità dei partecipanti, redigere i verbali, inviare tutta la documentazione pre e post audit.

Da marzo 2021 partecipo ai lavori del Gruppo ASW (Armonizzazione Siti Web, sottogruppi ASW-Design e ASW-Requisiti) istituito allo scopo di dare uniformità grafica e funzionale ai siti web INFN e ottemperare alle norme di legge in materia di accessibilità.

Da novembre 2021 faccio parte dello Steering Committee per la Transizione Digitale, gruppo coordinato dal dott. R. Gomezel, RTD-INFN, con l'obiettivo di istituire processi di riorganizzazione e individuare nuovi strumenti e servizi digitali per il percorso di trasformazione digitale del nostro Ente.

A febbraio 2022 sono stata nominata Responsabile dell'Ufficio di Segreteria della Direzione Sistemi Informativi. L'attività svolta in questi mesi è stata la seguente:

- stesura, protocollazione e invio di comunicazioni inerenti le attività della DSI (rilascio di nuovi applicativi, nomina esperti di dominio, referenti locali per la TD, call per attività presso DSI, ecc.)
- organizzazione delle riunioni plenarie della Direzione;
- partecipazione alle riunioni settimanali dei responsabili dei servizi della Direzione;
- progettazione e realizzazione del nuovo sito web: <https://www.dsi.infn.it/it/>

#### **Attività di docenza per corsi di formazione INFN:**

- Corso base su Joomla: dal 21 al 23 luglio 2014 presso la Sezione di Padova (9 ore totali);
- Corso avanzato su Indico: dal 12 al 14 novembre 2014 presso la Sezione di Padova (9 ore totali);
- Corso su Indico: dal 14 al 15 dicembre 2015 presso la Sezione di Milano (11 ore totali);
- Lezione su Indico, Tutorial Days di CCR: I Servizi Nazionali della CCR – LNF 28-30/10/2019 (<https://agenda.infn.it/event/20108/>);
- Lezione su "Gli strumenti tecnici per comunicare" Corso per Rappresentanti del Personale, Pisa 2-3/12/2019 [https://agenda.infn.it/event/20312/contributions/101676/attachments/69485/86349/Strumenti\\_informatici\\_def.pdf](https://agenda.infn.it/event/20312/contributions/101676/attachments/69485/86349/Strumenti_informatici_def.pdf)

Padova, 1 marzo 2023

Rossana Chiaratti

## Curriculum vitae Sabina Pellizzoni

### Profilo

- ◆ **Tecnologa** III livello a tempo indeterminato presso l'Istituto Nazionale di Fisica Nucleare (INFN);
  - ◆ **Master Universitario di II livello: "Management dell'Università e della Ricerca" 110/110 con lode** – MIP - Politecnico di Milano;
  - ◆ **Co - coordinatrice del programma di Gender Mentoring INFN** per la promozione delle carriere delle giovani ricercatrici e dei giovani ricercatori.
  - ◆ **Componente del coordinamento INFN per le attività relative al Network internazionale di Genera** (Gender Equality Network in European Research Area);
  - ◆ **Esperta esterna** Osservatorio su Genere e Talenti (GETA) – CNR
  - ◆ **Socia** Associazione Donne e Scienza
  - ◆ **Mobility manager Sezione di Roma**
- Contatti:**

### Dal 2018 – ad oggi

- ◆ **Co - coordinatrice del Gender Mentoring programme INFN**

Il primo programma di mentoring in un ente di ricerca italiano, riconosciuto dall'[European Institute for Gender Equality](#), mira a trasformare l'organizzazione del lavoro dall'interno dell'istituzione rimuovendo le barriere e i modelli di comportamento che perpetuano le disuguaglianze di genere. Il programma fornisce alle/ai più giovani un supporto per affrontare le sfide della carriera accademica e/o della ricerca.

- ◆ **Componente del coordinamento INFN per le attività relative al Network internazionale di Genera**

Il gruppo di coordinamento INFN, nato al termine del progetto europeo [GENERA](#) a seguito della stipula dell'INFN del MOU per la costituzione di un network europeo volto a stabilire linee guida e politiche finalizzate alla promozione dell'uguaglianza di genere e ad una migliore inclusione delle donne nella ricerca scientifica, è incaricato di coordinare e predisporre statistiche di genere per l'INFN, di stabilire rapporti di collaborazione con partner italiani ed europei per il monitoraggio e l'implementazione dei Gender Equality Plans e di promuovere e partecipare ad iniziative volte alla sensibilizzazione sulle tematiche di genere.

- ◆ **Mobility manager della Sezione INFN Roma**

### Ulteriori note excursus professionale

Gli incarichi sotto riportati sono frutto dell'esperienza inerente le tematiche dei finanziamenti derivanti da fondi esterni, principalmente in ambito europeo, maturata in quasi venti anni di attività lavorativa a supporto della sottomissione e gestione di grant europei e internazionali.

- ◆ Dal 2018 al 2021 **Responsabile nazionale "Servizio Regole, Strumenti e Formazione" [Divisione Fondi Esterni](#)** (DFE) – Amm.ne Centrale INFN con l'incarico di supportare in maniera trasversale gli altri Servizi della DFE;
- ◆ Dal 2012 al 2018 **Responsabile nazionale Area "Liasion con gli organismi finanziatori, pubblicizzazione e disseminazione"** del primo Servizio Fondi Esterni dell'Amm.ne Centrale INFN.
- ◆ 2016-2021 **Team member di progetti H2020 e Nazionali:**
  - [SHARPER 2020 bis](#) European Researchers' Night H2020 MSCA Project Grant Agreement n. 101036106  
**Referente nazionale per l'INFN per le attività inerenti il WP4 (Management);**
  - [SHARPER](#) (European Researchers' Night H2020 MSCA Project Grant Agreement n. 818977);
  - [GENERA](#) Gender Equality Network in the European Research Area H2020 GERI Project CSA;
  - [MAE\\_CINA](#) (progetto finanziato dal Ministero degli Affari Esteri);

### Dal 2004 – al 2011 Referente per la Sezione di Roma per:

- ◆ supporto ai ricercatori per la gestione dei contratti su fondi esterni (**Financial Officer**) e di terza missione;
- ◆ attività amministrative riguardanti i contratti con i fornitori stranieri e i rapporti amministrativi con i laboratori internazionali (CERN, Desy, FermiLab, JeffersonLab, Slac...); Responsabile Unico del Procedimento per le fattispecie contrattuali aventi ad oggetto le spedizioni, le introduzioni, le esportazioni, le importazioni e tutte le operazioni doganali;

### Docenze corsi su fondi esterni

- ◆ **2016- Docenza Corso Formazione PFN INFN: "Gestione, rendicontazione e audit dei progetti Horizon 2020 -corso avanzato. Esiti e analisi dei risultati di auditing della Commissione Europea nell'ambito del VII PQ all'INFN"**, Napoli 2016;

- ◆ **2015 Docenza Corso Formazione PFN INFN:** *"Il portale del Servizio Coordinamento Fondi Esterni: nuove funzionalità e tools applicativi. Best practice INFN per la gestione dei progetti europei"*, LNF, Frascati 2015.

#### Attività di Terza Missione su fondi esterni

- ◆ **2021 - Componente del Gruppo di Lavoro Soci Apre per la redazione dei Documenti inerenti il trattamento dei dati personali nei progetti Horizon 2020** (<https://apre.it/limpatto-del-gdpr-sui-progetti-h2020/>)
  1. **Quaderno1 "PROGETTAZIONE E CONSORTIUM AGREEMENT. Linee guida per il trattamento dei dati personali nei progetti Horizon 2020"**, a cura di Irene Creta, Renato Fa et al., 2021, APREquaderni APREquaderni, 2021 - ISBN: 9791280560025 - Doi: 10.5281/zenodo.4647768;
  2. **Quaderno2 "PROJECT MANAGEMENT E RENDICONTAZIONE. Linee guida per il trattamento dei dati personali nei progetti Horizon 2020"**, a cura di Irene Creta, Renato Fa et al., 2021, APREquaderni APREquaderni, 2021 ISBN: 9791280560032 - Doi: 10.5281/zenodo.4647794
  3. **Quaderno 3 "IMPLEMENTAZIONE, SFRUTTAMENTO DEI RISULTATI, DISSEMINAZIONE E COMUNICAZIONE. Linee guida per il trattamento dei dati personali nei progetti Horizon 2020"**, a cura di Irene Creta, Renato Fa et al., 2021, APREquaderni, APREquaderni, 2021 - ISBN: 9791280560049 - Doi: 10.5281/zenodo.4647807
- ◆ **2012 - Componente del Gruppo di Lavoro Soci Apre per la redazione del Documento**  
*"La gestione dei contratti di lavoro in ambito Marie Curie"*, APRE 2012;

#### Ulteriori contributi di Terza Missione

- ◆ **2022 - Osservatrice esterna** presentazione "[Laleo Lab](#)", gioco sugli stereotipi di genere sviluppato nell'ambito di un progetto per le scuole sull'individuazione e la decostruzione degli stereotipi di genere, prodotto dall'Università degli Studi di Napoli Federico II;
- ◆ **2017 -2022 Componente comitato organizzativo e di valutazione della School Competition** per il superamento degli stereotipi di genere nelle discipline STEM nelle giovani generazioni in collaborazione con il CNR-IRPPS nell'ambito del GENERA Network
  - **2022** - [Donne e ricerca in fisica: opportunità, ostacoli e sfide.](#)
  - **2018** - [Scienza genere e nuove generazioni](#)
  - **2017** - [Italian Gender in Physics day](#)
- ◆ **2014 - Docenza per il Politecnico di Milano – MIP Modulo**  
**I Percorso di Management per gli Enti Pubblici di Ricerca:**  
["La valorizzazione della ricerca e dei suoi risultati"](#), Roma 17 dicembre 2014

Roma, 1 marzo 2023

# Curriculum Vitae et Studiorum

## Sabino Meola

### Areas of Specialization

High energy particle physics • High energy physics detectors • Detectors Electronics

### Research and Academic Career

**2014–present:** Associate Professor, *University of Rome “Guglielmo Marconi”*, Italy.

**2012–2013:** Contract of association to PH-CMG department, *CERN Geneva*, Switzerland.

**2010–2014:** Researcher, *University of Rome “Guglielmo Marconi”*, Italy.

**2010:** Successful participation to a post-doc selection procedure to carry out research on the CMS experiment at *LIP Laboratories of Lisbon*, Portugal. I declined this post-doc position in favor of a position as researcher at *University of Rome “Guglielmo Marconi”*, Italy.

**2009:** Successful participation to a post-doc selection procedure to carry out research on the NA62 experiment at *National Institute for Nuclear Physics (INFN) – Section of Naples*, Italy.

**2005–2009:** PhD in Nuclear and Subnuclear Physics, *University of Naples “Federico II”*, Italy (highest honours).

**2004:** 1-year post-graduate fellowship at *INFN LNF Frascati National Laboratories*, (Italy), to carry out research on the KLOE experiment.

### Education

**2005–2009:** PhD in Nuclear and Subnuclear Physics, *University of Naples “Federico II”*, Italy (highest honours).

Thesis: “*Measurement of the  $K^\pm \rightarrow \pi^0 \pi^0 e^\pm \nu_e$  decay Branching Ratio with KLOE Detector*”.

Advisors: Prof. M. Napolitano (University of Naples “Federico II”, Italy)

Prof. F. Ambrosino (University of Naples “Federico II”, Italy)

**1999–2004:** Msc (“*Laurea*”) in Physics, *University of Naples “Federico II”*, Italy (110/110 *cum laude*, highest honours).

Thesis: “*Measurement of the  $K^\pm \rightarrow \pi^0 \pi^0 e^\pm \nu_e$  decay Branching Ratio with KLOE Detector*”.

Advisors: Prof. M. Napolitano (University of Naples “Federico II”, Italy)

Prof. F. Ambrosino (University of Naples “Federico II”, Italy)

### Appointments Held

**2020–2021:** Council member of the Department of Engineering at the *University of Rome “Guglielmo Marconi”*, Italy.

**2019–2020:** Council member of the Department of Physics at the *University of Rome “Guglielmo Marconi”*, Italy.

**2015–present:** Member of the PhD board in “*Physical Sciences and Innovation Engineering*” at the *University of Rome “Guglielmo Marconi”*, Italy.

**2014–2020:** Referent for the research activities of the *Department of Nuclear Subnuclear and Radiation Physics* at the *University of Rome “Guglielmo Marconi”*, Italy. The role implies research activities monitoring of the department and the formulation of the research strategy, to be submitted to Director Approval.

**2012–2019:** Responsible at the *University of Rome “Guglielmo Marconi”* for the activities of collaboration with Russian and Ukrainian Universities aimed at the stipulation of double degree agreements.

**2011–2019:** Board member at the Department of Nuclear Subnuclear and Radiation Physics at the *University of Rome “Guglielmo Marconi”*, Italy.

**2010-2019:** Teaching appointment of “*Mechanics and Electromagnetism*” organized for students participating to the national selection procedure for the admission at the Faculty of Medicine and Surgery of the University of Naples “Federico II” (Italy), degree course in Medicine and Surgery.  
**2005–2021:** Associated to *National Institute for Nuclear Physics (INFN) – Section of Naples*, Italy.  
**2016:** Teacher of “*Particle Therapy*”, second cycle master in Integrated Oncology at University of Rome “Guglielmo Marconi”.  
**2010:** Teaching appointment of “*Information Processing Systems*” at the Faculty of Medicine and Surgery of the University of Naples “Federico II” (Italy), degree course in Nursing.  
**2004-2005:** Associated to *National Institute for Nuclear Physics (INFN) – Frascati National Laboratories*, Italy.  
**2003-2004:** Associated to *National Institute for Nuclear Physics (INFN) – Section of Naples*, Italy.

## Funded Projects and Collaborations

**2018-present:** *Blaze*, Biomass Low cost Advanced Zero Emission small-to-medium scale integrated gasifier fuel cell combined heat and power plant. A Horizon 2020 project to develop an innovative, highly efficient and fuel-flexible technology for combined heat and power from biomass.  
**2018-present:** Participation to the project *CorsiGE*, aimed at the development of training courses on several topics concerning Industry 4.0, including Modern Physics and Statistics. The project is promoted in collaboration with General Electric, Italy division.  
**2016-2020:** AIDA 2020, funded by EU Commission. Every year the applicants receive payment of the living expenses (~1 week per year) to carry out data analysis and detector related activities at the GIF++ facility at Cern ([aida2020.web.cern.ch/](http://aida2020.web.cern.ch/)).  
**2016-present:** Participation to the project *Incontri di Fisica*, aimed at the development of training courses on topics of Modern Physics for high school teachers and scientific journalists from all over Italy. The project is promoted in collaboration with the National Laboratory of Frascati (LNF) of the National Institution of Nuclear Physics (INFN).  
**2014-2019:** Coordination of the Joint Title Agreement between *University of Rome “Guglielmo Marconi”* and the *Kiev National University (KNUTE)*.  
**2015-2017:** Participation to the project entitled *Acce(n:-)diScienza* funded by Italian Ministry of Education (MIUR) with notice Legge 6/2000 - PANN15T3\_00218. The project aims at the preparation of didactic and scientific material for outreach activities, in collaboration with the National Laboratory of Frascati (LNF) of the National Institution of Nuclear Physics (INFN).  
Consortium: INFN-Marconi- GARR, validity 01/03/2015-01/03/2017.

## Reviewing Activity

**2018:** Reviewer for Regione Sardegna. Fondo di Sviluppo e Coesione 2014-2020. Patto per lo sviluppo della Regione Sardegna - Area Tematica 3 - Linea d Azione 3.1 "Interventi di sostegno alla ricerca". Bando “Invito a Presentare Progetti di Ricerca di Base”, Annualità 2017.  
**2017:** Referee for the PhD Thesis of Giorgia Miniello (*PhD Student, University of Bari*)  
*Search for Dark Matter produced in association with a Higgs boson in the four lepton final state at 13 TeV with the CMS experiment*  
**2016–present:** Editorial Board Member, *Particles Research Journal*  
([www.mdpi.com/journal/particles/editors](http://www.mdpi.com/journal/particles/editors))  
**2015–present:** Editorial Board Member, *Universe Journal*  
([www.mdpi.com/journal/universe/editors](http://www.mdpi.com/journal/universe/editors))  
**2015–present:** Reviewer for the VQR (activity of evaluation of the National Research System), coordinated by the Italian Ministry of Education ([vqr.cineca.it](http://vqr.cineca.it))  
**2013–present:** Reviewer for the SIR call, Italian Ministry of Education ([sir.miur.it](http://sir.miur.it))  
**2010–present:** Reviewer for the FIRB call, Italian Ministry of Education ([firb.miur.it](http://firb.miur.it))

## Grants

**2005** Contract as chairman assistant at “Instruments for Research Funding” graduate school, granted by *Faculty of Mathematical, Physical and Natural Sciences of the University of Naples “Federico II”* (Italy).

**2004-2005** 1–year post-graduate fellowship, granted by *INFN-LNF Frascati National Laboratories*, Italy.

**2003-2004** 1–year graduating scholarship granted by Italian Ministry of the Interior.

**2002-2003** 1–year graduating scholarship granted by Italian Ministry of the Interior.

**2001-2002** 1–year graduating scholarship granted by Italian Ministry of the Interior.

**2000-2001** 1–year graduating scholarship granted by Italian Ministry of the Interior.

**1999-2000** 1–year graduating scholarship granted by Italian Ministry of the Interior.

## Research Experience

**2010–present CMS collaboration at CERN – Switzerland.**

- **Improved-RPC (iRPC) new electronics development for the CMS Phase-II upgrade.** As part of the Compact Muon Solenoid experiment Phase-II upgrade program, new Resistive Plate Chambers will be installed in the forward region. High background conditions are expected in this region during the high-luminosity phase of the Large Hadron Collider, therefore an improved RPC design has been proposed with a new front-end electronics to sustain a higher rate capability and better time resolution. Since September 2020, I hold a **Level-2 responsibility as CMS RPC Electronic Coordinator**.

- **iRPC Task Force.** In October 2021, I have been appointed in charge of a Task Force group with the function of assessing effects on the iRPC performance/longevity versus new Front-End Board (FEB) performances, the latter affected by a very high level of cross-talk. The task force responsibilities were: identify the cause of the cross-talk problem; assess the impact of a possible downgraded FEB performance wrt TDR technical specifications; identify possible alternative HW solutions to cope with TDR technical specifications, minimizing the impact on present chamber design and mass production time schedule. After 6 months of work, in March 2022 the source of cross-talk noise on the Front-End board was identified and the FEB compliance to the TDR requirements ensured.

- **iRPC Front-End board (FEB) irradiation tests.** In order to verify the safe operation of the iRPC detector electronics, an extensive irradiation tests campaign of the new iRPC FEBs has been carried out in different facilities. Tests were performed with gammas, neutrons and protons searching for both cumulative and single-event effects when exposed to radiation, with the aim also to evaluate and validate possible countermeasures. FEB prototype, mounting Cyclone V FPGA, was involved in 2021-2022 tests and outcomes are crucial to identify possible modification of the FPGA (rad. hard PolarFire) and general improvements in the FEB design. Full irradiation campaign will be repeated once the final FEB version will be defined and made available, during 2023.

- **iRPC power system test for the CMS Phase-II upgrade.** A new power supply system is needed in order to power the gap and the new electronic. Test on the induced noise from both new High Voltage and Low Voltage system are in progress. I hold a **Level-3 responsibility for the Power System Validation Tests**.

- **RPC and iRPC longevity tests at the Cern GIF++ facility.** Studies concern the expected rate, total integrated charges and efficiency measurements at the HL-LHC operational parameters on the actual RPC system and for the upgrade prototypes. Results are benchmarked with **Geant4 simulations**, in order to take accurately into account photons multiple scattering on irradiator and concrete walls of the GIF++ bunker. I held in the period 2019-2021 a **Level-3 responsibility as CMS RPC Database Contact** in the Detector Performance Group (DPG) of the RPC.

- Searches for the so-called **Mono-Higgs reactions**, where a dark matter candidate is produced in association with a visible SM Higgs boson. The Mono-Higgs search considered aims at analyzing events where a Higgs boson decays in four charged leptons ( $4e$ ,  $4\mu$  and  $2e2\mu$ ). The analysis strategy is based on the optimization of the cut-based analysis used for the search of a standard Higgs decaying via the  $H \rightarrow ZZ \rightarrow 4l$  channel, with particular attention at the sensitivity improvement and definition of control and signal regions.
- Search for the **standard model Higgs boson in the final state with four charged leptons** ( $4e$ ,  $4\mu$  and  $2e2\mu$ ). Studies include the measurement of the width of the observed resonance and of its properties, with particular reference to the VBF topology, which contributes to about 20% of the inclusive Higgs around  $125 \text{ GeV}/c^2$  and allows for better background rejection, with positive effects on the measurement of coupling constants, even anomalous one, of the Higgs to gauge bosons.
- Search for the **standard model Higgs boson decaying to two Z bosons** with subsequent decay to a final state with two leptons and two quark-jets ( $H \rightarrow ZZ \rightarrow 2l 2b$ ), development of data driven strategies to reduce background contamination based on kinematic and topological quantities, which include the angular spin correlations of the decay products.
- Analysis of **Track Counting High Efficiency and Combine Secondary Vertex tagging algorithms** performance, study of tagging algorithms behavior with respect to pile up contamination, computation of tagging algorithms efficiencies and signal to background ratio in the double b-tag selection.
- Resistive Plate Chamber (RPC) **Production and Quality Control (QC)** at CERN. Since from the beginning of 2013 I hold a **Level-3 responsibility on the QC4 tests** performed at CERN on both the individual chambers and the Super Modules. A high quality control protocol for the chamber production has been carefully prepared for each construction level. Individual components need to satisfy detailed mechanical specifications. The HPL gas gaps will undergo visual inspections, leak tests and dark current measurements. Assembled chambers will be thoroughly tested (efficiency, cluster size, long term current monitoring, noise) in cosmic test benches at each of the assembly sites. All the tests at chamber level are repeated once the chambers have been transported to CERN and yet again when the chambers are mounted in the Super Modules. The final checkout occurs after the installation of the Super Modules in the CMS detector.
- Collaboration Notes. Properties of the Higgs-like boson in the decay  $H \rightarrow ZZ \rightarrow 4l$  (CMS Note HIG-13-002, 2013).

#### **2004–2010 KLOE collaboration at INFN Frascati National Laboratory - Italy.**

- Research activity on charged Kaon physics, development and implementation of several analysis methods and tools utilized to obtain  $\pi$ -e calorimeter discrimination, to perform background rejection and to evaluate pions and electrons track-to-cluster-association efficiencies directly on data.
- Measurement of the  $K^{00}e4$  ( $K^\pm \rightarrow \pi^0 \pi^0 e^\pm \nu_e$ ) Branching Ratio. The measurement has been carried out with the KLOE experiment at DAΦNE, the Frascati National Laboratories  $\Phi$ -factory.

#### **2006-2009 NA62 collaboration at CERN - Switzerland.**

- Contribution to the tests on the large angle photon vetoes, used to reject background by identifying the final state photons with an efficiency on the single photon  $< 10^{-4}$  above the 100 MeV. Preparation of a test station for data acquisition and instrument control developing software in LabVIEW visual programming language.
- Participation to NA62 test beam at CERN.

## **Conferences**

**2022 4th World Summit conference on Exploring the Dark Side of the Universe (EDSU2022).** Held in La Réunion on the 7th-11th November 2022. Proceedings in press.



**2022** *Resistive Plate Chambers and Related Detectors (RPC 2022)*. Held on 26-30 September 2022 at Cern laboratories of Geneva. Proceedings in press.

**2020** *Resistive Plate Chambers and Related Detectors (RPC 2020)*. Held on 10-14 February 2020 in Rome, Italy, will be published in the Proceedings Section of JINST, Journal of Instrumentation.

**2017** *Beyond Standard Model: From Theory to Experiment (BSM 2017)*. Promoted by the Center for Fundamental Physics at Zewail City of Science and Technology in Egypt, held at Jasmine Palace Resort in Hurghada, Egypt, on December 17-21, 2017, with a presentation entitled “CMS Upgrade and Future”.

**2017** *CMS Physics Object School (CMSPOS 2017)*. Participation as facilitator for the RPC exercises and simulation in Geant4. The School was held in Bari, Italy, 4-8 September 2017. With a lesson entitled 'RPCGeant4 simulation'.

**2015** *IX International GUIDE Conference on Online Education and Society: The Challenges of the Digital Era*. University of Salvador USAL of Buenos Aires-Argentina, with a presentation entitled “Modern Technologies and Distance Learning in Science Didactics”. Proceedings published on Formamente.

**2015** *CMS Physics Week* Member of the Organizing Committee, I contributed to the organization and participated to the conference held at Hotel Continental Terme Ischia-Italy, 8-11 September 2015.

**2014** *CMS Italia Workshop* Member of the Organizing Committee, I contributed to the organization and participated to the conference held at the Italian Institution for Philosophical studies of Naples-Italy, 17-21 November 2014.

**2013** *International Workshop on Deep-Inelastic scattering and Related Subjects (DIS 2013)*, Marseille-France, with a presentation entitled “Measurements of properties of the Higgs-like Particle at 125 GeV by the CMS collaboration” (<http://arxiv.org/abs/1310.4146>).

**2008** *Flavianet '08* Member of the Organizing Committee, I contributed to the organization and participated to the conference, held at Conference Centre of the University of Naples “Villa Orlandi”, Anacapri-Italy, 11-14 July 2008.

**2007** *Kaon 2007* at Frascati National Laboratories – I.N.F.N, Frascati-Italy.

**2007** *Incontri di Fisica delle Alte Energie 2007 (IFAE '07)*, Naples-Italy, with a presentation entitled: “Charged Kaons and Vus at KLOE”. Proceedings published by Springer-Verlag 2008, XVI, 326 p., ISBN: 978-88-470-0746-8.

**2007** *XCIII National Congress of the Italian Physics Society 2007 (SIF '07)*, Pisa-Italy, with a presentation entitled: “Highlights from  $K^\pm$  lifetime and  $K^0_{S,L}$  BR at KLOE”. Proceedings published by Il Nuovo Cimento ISBN 88-7438-013-5.

**2006** *Discoveries in Flavour Physics at  $e^+e^-$  colliders 2006* at Frascati National Laboratories – I.N.F.N, Frascati-Italy.

## **Workshops**

**2018** CMS Week '18 – Budapest (Hungary), 1-5 October

**2015** CMS Week '15 – Ischia (Italy), 7-11 September

**2012** CMS Week '12 – Lisbon (Portugal), 3-7 September

**2011** CMS Week '11 – Brussels (Belgium), 10-16 September

**2008** KLOE Physics Workshop '08 – Ponza (Italy), 4-7 June

**2007** KLOE Physics Workshop '07 – Capri (Italy), 7-10 June

**2006** KLOE Physics Workshop '06 – Sabaudia (Italy), 11-13 May

**2005** KLOE Physics Workshop '05 – Capri (Italy), 12-14 May

## Schools

**2007** International high energy physics school “*The 4<sup>th</sup> CERN-CLAF School of High-Energy Physics*” at Viña del Mar, Valparaiso Region (Chile) February 18<sup>th</sup> – March 03<sup>th</sup>. Proceedings of the Latin American School 2007 (Chile) CERN 2008-004.

**2006** High energy physics school “*XIX National Seminar of Nuclear and Subnuclear Physics*” organized at Serra degli Alimini, Otranto (Italy), September 21<sup>th</sup> – 27<sup>th</sup>.

**2005** International spring school “*Bruno Touschek '05*” at INFN Frascati National Laboratories, Frascati (Italy), with a presentation entitled: “Recent progress on charged Kaon decays from KLOE”.

## Teaching Activity

### Since A.Y. 2010/2011

- Teacher of “*General Physics*” at the Faculty of Applied Sciences and Technologies of the University of Rome “Guglielmo Marconi” (Italy), degree course in Computer Engineering.
- Teacher of “*Nuclear Physics*” at the Faculty of Applied Sciences and Technologies of the University of Rome “Guglielmo Marconi” (Italy), degree course in Nuclear Engineering.

### Since A.Y. 2009/2010 and up to A.Y. 2018/2019

- Teaching appointment of “*Mechanics and Electromagnetism*” organized for students participating to the national selection procedure for the admission at the Faculty of Medicine and Surgery of the University of Naples “Federico II” (Italy), degree course in Medicine and Surgery.

### From A.Y. 2013/2014 to 2014/2015

- Teacher of “*Nuclear Safety*” at the Faculty of Applied Sciences and Technologies of the University of Rome “Guglielmo Marconi” (Italy), degree course in Nuclear Engineering.
- Teacher of “*Radiation Protection*” at the Faculty of Applied Sciences and Technologies of the University of Rome “Guglielmo Marconi” (Italy), degree course in Nuclear Engineering.

### From A.Y. 2009/2010 to 2010/2011

- Teaching appointment of “*Information Processing Systems*” at the Faculty of Medicine and Surgery of the University of Naples “Federico II” (Italy), degree course in Nursing.

### A.Y. 2007/2008

- Teaching assistant of “*Physics Experimentation I*”, at the Faculty of Mathematical, Physical and Natural Sciences of the University of Naples “Federico II” (Italy), degree course in Physics.
- Teacher of “*Principles of Quantum Mechanics*”, at the Faculty of Mathematical, Physical and Natural Sciences of the University of Naples “Federico II” (Italy), degree course in Physics.

## Students Supervision (Mentoring)

**2018** Manuela Sforza (*Master Student, University of Rome “Guglielmo Marconi”*).

Thesis: *The AlcaDB database system of the CMS experiment at Cern.*

**2017** Giorgia Miniello (*PhD Student, University of Bari*).

Referee for the Thesis: *Search for Dark Matter produced in association with a Higgs boson in the four lepton final state at 13 TeV with the CMS experiment*

**2016** Andrea Gelmi (*Master Student, University of Rome “Guglielmo Marconi”*).

Thesis: *Resistive Plate Chamber Detector tests with the GIF++ facility at Cern.*

**2014** Alessandro Ampollini (*Student, University of Rome “Guglielmo Marconi”*).

Thesis: *Quality control on detectors and innovative linear accelerators: medical applications.*

**2013** Botan Elveren (*Summer Student, CERN*).

**2012** Marco Giorgi (*Student, University of Rome “Guglielmo Marconi”*).

Thesis: *Nuclear disaster: Chernobyl 26 years later.*

**2012** Riccardo Santaguida (*Student, University of Rome “Guglielmo Marconi”*).

Thesis: *Application of radionuclides dispersion model in the environment and impact studies.*

**2011** Giorgio Smrekar (*Student, University of Rome “Guglielmo Marconi”*).  
Thesis: *Use of scintillation detectors in the Conversi-Pancini-Piccioni experiment.*

**2011** Tommaso Fabio (*Student, University of Rome “Guglielmo Marconi”*).  
Project: *Non-destructive techniques for environmental measurements.*

**2010** Alessandro Ampollini- Fabio Fortini (*Students, University of Rome “Guglielmo Marconi”*).  
Project: *Use of scintillation detectors in the medical field: Operation parameters and Quality Control.*

## **Outreach and Communication**

**2012-2019:** Guided tours of the CERN laboratories and CMS P5 CERN site.

**2004-2009:** Guided tours of the Physics Department of *University of Naples “Federico II”* for high school students.

**2006-2008:** Guided tours of the *LNF Frascati National Laboratories*, Frascati (Italy) experimental area and control room in English and Italian.

**2006-2008:** Guided tours at *Città della Scienza*, Naples (Italy).

## **IT and Programming Skills**

**Systems** GNU/Linux, MS-Windows, MS-DOS.

**Programming** C++, C and Fortran 77.

**Visual Programming** LabVIEW.

**Scripting** Perl, Python, shell-script (csh, sh).

**Data Analysis** ROOT, PAW, HBOOK. Mathematica.

**Simulation** Geant, Interactive Physics, Wolfram Demonstration Project.

**Graphics** The Gimp, Adobe Photoshop, Adobe Ligthroom, Adobe Illustrator.

**Typesetting** LaTeX.

**Productivity** MS Office (PowerPoint, Word, Excel), OpenOffice, LibreOffice, various Internet applications.

## **Abroad Stays**

**2017** CERN laboratories - Switzerland, for 4 months.

**2016** CERN laboratories - Switzerland, for 5 months.

**2015** CERN laboratories - Switzerland, for 3 months.

**2014** CERN laboratories - Switzerland, for 4 months.

**2012-2013** CERN laboratories - Switzerland, for 24 months.

**2011** CERN laboratories - Switzerland, for 4 months.

**2007** CERN laboratories - Switzerland, for 2 months.

## **Languages**

- *Italian:* Mother tongue.
- *English:* Fluent.
- *French:* Intermediate.
- *Russian:* Basic understanding.