



Curriculum Vitae

Name: Valentina

Surname: Martinelli

Education

- From 1 November 2015 **Ph. D. student in Accelerators Physics with grant** in “Sapienza Università di Roma” (Roma).
 - Laboratory: Frascati National Laboratories (LNF)
 - Thesis work: started on March 2016 at Frascati National Laboratories of Italian Institute of Nuclear Physics INFN, within the SPARC_LAB group. SPARC_LAB facility includes a high intensity photoinjector capable of delivering electron beams up to 200 MeV (SPARC) and a high power laser (FLAME), able to produce intense (5 Joules) ultra short pulses (30 fs). My thesis work consist in the synchronization of the SPARC bunch with the FLAME laser pulse, in order to obtain a synchronization below 10 fs, as required by Laser-Plasma acceleration experiments.
- October 2015 won doctoral position with grant in Accelerators physics in “Sapienza Università di Roma” (Roma) and in Physics and Nanotechnology in “Università del Salento” (Lecce).
- 5th October - 4th March 2016 I have had a **short term contract** to continue my thesis works.
- 23th December 2011- 26th June 2015 **Master in Physics**
 - University: “Sapienza Università di Roma” in Rome (Italy)
 - Thesis title: “Ottimizzazione e realizzazione di una camera per il monitoring del gas della camera a deriva dell'esperimento MEG2”, Optimization and realization of the gas monitoring chamber used for the gas quality check of the drift chamber in MEG 2 experiment
 - Supervisor: Dr. Cecilia Voena, Dr. Francesco Renga
 - Weighted average grade: 28.8/30
 - Final Mark: 108/110
- 16th August-3th October 2012 **Summer Student at Paul Scherrer Institut, Villigen (CH)**

- **2007-2011 Degree in Physics**

- University: “Sapienza Università di Roma” in Rome (Italy)
- Thesis title: “Acceleratori lineari e applicazioni industriali”, Linear accelerators and industrial's applications
- Supervisor: Prof. Giovanni Organtini
- Final Mark: 94/110

- **2000-2006 Scientific High school certificate**

- Final Mark: 70/100

Spoken languages

- Italian (native speaker)
- English (fluent)
- German (near native)
- 1989-1998 I attended the German school of Rome

Talks at conferences/school and workshops

- 8th -12th September 2016 International School on Laser-Beam Interactions, Natal (BR)
- 11th January - 13th February 2016
- JUAS school Course1, Archamps (FR)
- 17th -19th March 2015, Lepton Flavour Physics with the Most Intense DC Muon Beam, Tokyo

Past Activities

I was am a member of the MEG collaboration. The MEG experiment is located at the Paul Scherrer Institut in Villigen (Switzerland) and searches for lepton flavour violation muon decay into a positron and photon by stopping on a thin target the most intense continuous muon beam in the world. Within the collaboration I was involved in different activities:

- Realization of Monte Carlo simulation with the simulation package Geant4 aiming to optimise the geometry (staggering and tubes numbers) of the Gas monitoring chamber which will be used to monitor the gas quality of the Meg2 drift chamber during data taking. With a parametric simulation we estimate the required activity for 55Fe source used to evaluate the gain of the gas mixture .
- Realization of Monte Carlo simulation using the package Garfield++ used for:
 - simulate the sensitivity of the detector to different gas contaminations ;
 - gain evaluation of the gas drift chamber;
 - evaluate possible wire misalignments.
- Development of the track reconstruction code
- Development of a Slow Control system for laboratory tests of the monitoring chamber:
 - Development and programming of an electronic board, based on the Arduino microcontroller board, for sensor readout and remote control of other electronic devices;
 - Implementation of a database;
 - Implementation of a web interface to access the database and remotely communicate with the system.

I also take part to the **organization of the expo “Anno Internazionale della Luce”** at “Sapienza Università di Roma”

Teaching :

I assist Prof. Giovanni Organtini with teaching students on how to use Arduino boards for the "Physical Computing Laboratory" course .

Publication :

A.M. Baldini, E. Baracchini, G. Cavoto, M. Cascella, F. Cei, a, M. Chiappini, G. Chiarello, C. Chiri, S. Dussoni, L. Galli, F. Grancagnolo, M. Grassi, V. Martinelli, D. Nicolò, M. Panareo, A. Pepino, G. Piredda, F. Renga, E. Ripiccini, G. Signorelli, G.F. Tassielli, F. Tenchini, M. Venturini, C. Voena, “*Single-hit resolution measurement with MEG II drift chamber prototypes*” doi:10.1088/1748-0221/11/07/P07011 arXiv:1605.07970 [physics.ins-det].

Skills:

programming in C, C++, ROOT, HTML5 and PHP, and summary of Perl;
Monte Carlo simulation with the simulation packages Geant4 and Garfield++;
Arduino board;
Database implementation with MySQL.

Something about me:

I have been a scout as well as a competitive football (soccer) player.
As a scout, I was a volunteer with the elderly and intellectually disabled children.
Working in a scientific collaboration and Playing football enhanced my team skills and honed my ability to work together with other people. I am sociable, highly motivated, adaptable and able to work under pressure. I consider myself as being responsible and hard-working.

Rome, 7/10/2016

Valentina Martinelli

