Carmen Victoria Villalba Petro

Personal Information:

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Nationality	Venezuelan
Date of birth	11/11/1990
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Education and training:

- Licentiate in physics (5 years degree) of Simon Bolivar University. Caracas, Venezuela. Thesis work: Neutron/gamma discrimination using Pulse Shape Analysis (PSA) and Time of Flight (ToF) technique.

2018
- CERN Summer Student. Project with COLLAPS group at ISOLDE facilities. Geneva, Switzerland.
- Workshop: "Measurements with Scintillating Fibres". CERN, Geneva, Switzerland.

2017
- "XIV ICFA School on Instrumentation in Elementary Particle Physics". UCI, Havana, Cuba.
- Internship in the Laboratory of Nuclear Technology at the Venezuelan Institute of Scientific Research (IVIC) Caracas, Venezuela.

2016
- Course: "Gamma Spectrometry: Efficiency Calibration, Experimental Method". Simon Bolivar University, Venezuela.

2015
- Participant on the "XI Latin American Symposium on Nuclear Physics and Applications". Medellin, Colombia.
- Participant on the "NORM and TENORM in the Oil Industry" workshop. Caracas, Venezuela.
- Participant on the "First National Meeting of Investigation and technology about Ionizing Radiations". Caracas, Venezuela.

2014
- Participant on the "VIII National Congress of Physics". Tucacas, Venezuela.
- Course: "Introduction to Ionizing Radiation Physics, Dosimetry and Radiological Protection". Simon Bolivar University, Venezuela.
- Courses: "Introduction to Nuclear Physics I and II". Simon Bolivar University, Venezuela.

2013
- Course: "Cosmic rays on LAGO Project: Phenomenology, Detection and Data Analysis". UNSAAC, Cusco, Peru.

2010
- Course: "Physics Demonstrations". Simon Bolivar University. Venezuela.

Presentations:

2017
- C. Villalba et al. *"Real Time and Online Monitoring System for Sulfur Concentration in Oil"* (Oral Presentation) PDVSA Meeting with our Science. February 1-3, Caracas, Venezuela.

2015
- C. Villalba et al. "*Characterization of neutron and gamma components of radioisotopic sources using analog PSD" (Poster) XI Latin American Symposium on Nuclear Physics and Applications. November 30 – December 4, Medellin, Colombia.*

Work experience:

Today
- Research assistant at the Nuclear Physics Laboratory. Simon Bolivar University. Caracas, Venezuela.
- Physics and mathematics tutor. Caracas, Venezuela.

2012-2017
- Member of the Physics Demonstrations Group. Simon Bolivar University. Caracas, Venezuela.

- Organizer of the annual science fair for new students of physics. Simon Bolivar University.

2015
- Facilitator on the “NORM and TENORM in the Oil Industry” workshop. Caracas, Venezuela.
- Advisor and research assistant of “Nanotechnology: The Revolution of the small” exhibition. Science Museum Caracas, Venezuela.

2014
- Member of the Organizing Committee “VIII National Congress of Physics”. Tucacas, Venezuela.

2012-2014
- Member of the Large Aperture Gamma Ray Observatory (LAGO) Project.

2012-2013
- General Secretary of Physics Students Center. Simon Bolivar University, Venezuela.

2011
- Physics Laboratory Guide. Children’s Museum. Caracas, Venezuela.
- Member of the Astronomy Investigation Group. Simon Bolivar University, Venezuela.

Languages:

- Mother tongue: Spanish
- Other languages: English (Advanced) - German (Basic)

Technical Skills:

- Advanced set up preparation with nuclear electronic instrumentation, mostly NIM type (HV and LV power supplies, amplifiers, CFD, LSD, TAC, SCA, PSD, MCA, oscilloscopes)
- Radiological protection knowledge.
- Use of neutron/gamma and calibration sources.
- Gamma spectrometry using inorganic (NaI(Tl), BGO, BaF_2) and organic (NE-213, plastic) scintillators and for high resolution semiconductor detectors (HPGe, LEGe)
- Neutron spectrometry (Pulse Shape Analysis and Time Of Flight technique)
- Spectrometry data acquisition software management.
- Basic use of vacuum systems.
- ROOT, C/C++ programming.

Social skills:

- Effective team working skills.
- Easy adaptation to different work areas.
- Ability to quick learning.
- Initiative to collaborate on projects and bring new ideas.
- Skills to solve problems quickly.
- Ability to organize different types of events.

References:

- Dr. Haydn Barros. Professor of physics department and head of the Nuclear Physics Laboratory at Simon Bolivar University. Venezuela. Email: lab.nuclear@gmail.com
- Dr. Laszlo Sajo Bohus. Professor and founder of the Nuclear Physics Laboratory at Simon Bolivar University. Venezuela. Email: sajobohus@gmail.com
- Dr. Félix Pino. Professor of the physics and astronomy department. University of Padova. Italy. Email: felixpino@gmail.com