

Carlos García Argos, PhD in Physics

Professional Experience

March 2016 – present

Marie Curie COFUND Fellow

Albert-Ludwigs-Universität Freiburg

Currently working on the ATLAS Inner Tracker Upgrade, strips detectors in the Karl Jakobs Group at the University of Freiburg.

Job description: software and firmware development for data acquisition systems, silicon strips modules testing, interlocks for silicon detectors, commissioning of cooling systems, data acquisition and electronics for testbeam and irradiations.

Technologies and tools: C/C++, ROOT, Xilinx Artix-7, Xilinx Spartan-6, Xilinx ISE and Vivado.

March 2014 – February 2016

Marie Curie COFUND Fellow

CERN

Technology Department, Machine Protection and Electrical Integrity group, Electronics for Protection section.

Job description: studies and operation of the beam permit optical links in the LHC and SPS, safety critical systems, upgrade of the Beam Interlock System (BIS) electronics and optical links, design of a real-time, out-of-band fibre monitoring system for the BIS fibres, commissioning and maintenance of the BIS electronics and thermal studies of optical transceivers.

Official CERN guide for ATLAS and CMS.

Technologies and tools: C/C++, Xilinx Spartan-6, Xilinx CPLDs, Microsemi IGLOO2, Arduino, Matlab, Xilinx ISE, Altium, commercial optical devices.

July 2011 – February 2014

CERN USAS, User

CERN/IFIC-CSIC

I worked at CERN and IFIC (*Instituto de Física Corpuscular*) as a member of the ATLAS Collaboration.

Job description: lifetime tests, reliability and thermal studies of laser devices, operation and performance studies of the ATLAS SemiConductor Tracker (SCT), ATLAS Phase 2 Upgrade of the Inner Tracker for High Luminosity LHC, development and testing of DAQ systems, supervision of summer students and official CERN guide for ATLAS.

Technologies and tools: C/C++, ROOT, ATLAS Grid, Silicon devices, Matlab.

July 2005 – June 2011

R&D Engineer

Telefónica I+D: Photonic Networks

Telefónica I+D is the Research and Development company from the Telefónica Group, contributing to the competitiveness of the Group through technological innovation.

Job description: intelligent optical and IP networks, participation in EU funded projects from the 6th and 7th Framework Programmes, Multi-Layer Traffic Engineering, Optical Burst Switching, network simulations and network deployment.

Technologies and tools: commercial optical devices, Huawei ROADMs, Juniper and Cisco Routers, Eclipse, Java, C/C++.

Selected Publications and Contributions

C. García-Argos, The ATLAS ITk Strip Detector. Status of R&D, in Proc. VCI 2016, April 2016. doi: 10.1016/j.nima.2016.04.058

C. García-Argos, et. al. Fibre Monitoring System for the Beam Permit Loops at the LHC and Future Evolution of the Beam Interlock System, in Proc. IPAC 2015, May 2015.

The ATLAS Collaboration, Operation and performance of the ATLAS semiconductor tracker, JINST 9 (2014) P08009. doi: 10.1088/1748-0221/9/08/P08009

S. Díez, et. al., A double-sided, shield-less stave prototype for the ATLAS Upgrade strip tracker of the High Luminosity LHC, JINST 9 (2014) P03012.
doi: 10.1088/1748-0221/9/03/P03012

Carlos García Argos, et. al., dE/dx measurement in the ATLAS SCT detector and its potential for particle identification and performance tracking, ATLAS Internal Note, ATL-COM-INDET-2013-026.

J. E. Gabeiras, et al, *Is multilayer networking feasible?*, Optical Switching and Networking, 2009. doi:10.1016/j.osn.2009.02.004

R. Muñoz, et al, *Experimental demonstration of ASON-GMPLS signaling interworking in the NOBEL2 Multi-domain Multi-Layer Control Plane Emulator*. ONDM 2008.
doi: 10.1109/ONDM.2008.4578415

Carlos García Argos, Óscar González de Dios, Javier Aracil, *Adaptive Multipath Routing for OBS Networks*. ICTON 2007. doi: 10.1109/ICTON.2007.4296303

Education

Universidad de Valencia, Valencia, Spain

PhD in Physics

Graduated: January 2015

Thesis: *A Silicon Strip Detector for the Phase II High Luminosity Upgrade of the ATLAS Detector at the Large Hadron Collider*.

Available in arXiv, DOI: 10.17181/CERN.K7MD.N3VZ

Universidad Autónoma de Madrid, Madrid, Spain

Higher Degree: *Master's in Computer Science and Telecommunication*

Major: Communications and Networking

Attended: October 2008 – June 2010

Graduated: May 2011

Dissertation: *An Industrial Application of Multilayer Traffic Engineering Techniques*.

Available at the University website

Universidad de Málaga, Málaga, Spain

Higher Degree: *Telecommunication Engineering*. Majors: Telematics and Electronics

Attended: October 1998 – June 2005

Graduated: January 2008

Dissertation: *Definition and Evaluation of Multipath Routing Strategies for Optical Burst Switching Networks*.

Recent Additional Training

April 2016. Management Course: *Managing Project Risks and Changes* by University of California, Irvine, on Coursera. Certificate earned on April 28, 2016

April 2016. Management Course: *Budgeting and Scheduling Projects* by University of California, Irvine, on Coursera. Certificate earned on April 28, 2016

October 2015. Management Course: *Introduction to knowledge transfer tools at CERN*.

July 2015. Management Course: *Initiating and Planning Projects* by University of California, Irvine, on Coursera. Certificate earned on July 4, 2015.

July 2015. Technical Course: *Reliability and System Risk Analysis*.

July 2015. Management Course: *Fundamentals of Project Planning and Management* by University of Virginia, on Coursera. Certificate earned on May 31, 2015.

January 2015. Technical Course: *AXEL: Introduction to Particle Accelerators*.

July 2014. Technical Course: *Electromagnetic Compatibility: Applications*.

March 2014. Safety Course: *Habilitation Electrique: Electrician Low Voltage*.

December 2013. Technical Course: *Electromagnetic Compatibility: Introduction*.

June 2013. Safety Course: *Laser Experts* at CERN.

June 2013. Technical Course: *Signal Integrity: Essential Principles of Signal Integrity*.

Relevant Skills

Electronics: DAQ systems, EMC and interference immunity, lifetime studies and failure analysis, system tests, signal integrity, laser safety, remote control, Xilinx and Microsemi FPGA programming (VHDL), basic PCB design, Arduino-based projects, micro-controllers.

Optical communications: optical fibres, lasers and receivers.

Software Development: ROOT, C/C++, Java, Matlab/GNU Octave, Linux shell scripting.

Software Suites: Microsoft Office, OpenOffice.org/LibreOffice, L^AT_EX 2_ε.

Languages

Mother tongue: Spanish.

Language	Listening	Reading	Spoken interaction	Spoken production	Writing
English	C2	C2	C2	C2	C2
French	B1	B1	A2	A2	A2

Other Information

Spanish Nationality.

Date of birth: July 1st, 1980.

B driving licence, Spanish.

LinkedIn profile: <https://www.linkedin.com/in/garciaargos>

Last update: June 1, 2016