

## PERSONAL INFORMATION

Surnames / First name  
Email  
Website  
Nationality  
Date of birth

# Curriculum Vitae



## Lucas Rodríguez, Fernando

info@fernandolucas.es  
http://www.fernandolucas.es  
Spanish  
February, 1982

## WORK EXPERIENCE

### Design and development of the Detector Control System for TOTEM experiment

From 2006-09-01

CERN (European Organization for Nuclear Research)

Coordinate a team of up to 7 people working on different locations

Requirements elicitation

Assistant project manager

Design of software architecture

Design of fieldbuses topology for sensors

Analysis of prototypes and response time

Agreements on the interactions among the DCS and other systems

Administration of central documentation and subversion repository

### Computing systems administrator

From 2006-01-15 to 2006-08-04

Seria - Junta de Andalucía, Consejería de Innovación, Ciencia y Empresa

Physical installation, management and configuration of the 24x7 servers

Web servers, SAMBA and LDAP domains, DNS, proxies and all related network tasks

### Software developer for instrumentation

From 2005-06-01 to 2005-08-31

NATO Air Base Moron de la Frontera

Design and partial implementation of data acquisition application for VXI instrumentation devices on a calibration laboratory

### Chairperson

From 2005-01-15 to 2006-03-15

IEEE Sevilla Student Branch

Coordination of students activities

Interviewing with department directors

Funding requests

Managing debate sessions

Legal processes to become an official association in Spain

## EDUCATION AND TRAINING

### PhD degree on Industrial Informatics

2009-06-26

University of Sevilla

Department of Computers Architecture and Technology

PhD thesis on the Detector Control System for TOTEM experiment at CERN. Special emphasis on formal requirements definition and automation procedures for software development. It was awarded with the 'cum laude' and 'european' distinctions.

### Computing engineer

From 2000-09-01 to 2005-09-15

University of Sevilla

Higher Technical School of Computer Engineers

The aim of those studies is to provide high skilled professionals for private/public sector, focusing in management and technical aspects while providing a strong theoretical background.

My master thesis was titled "Simulation of processes of quantum information and quantum cryptography", under scientific supervision of Dr. Adán Cabello Quintero.

## LANGUAGES

Mother tongue

Self-assessment

Common European Framework of Reference  
(CEF)

**English**

**French**

### Spanish

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C2 Proficient user	C2 Proficient user	C2 Proficient user	C1 Proficient user	C2 Proficient user
B2 Independent user	B2 Independent user	B1 Independent user	B1 Independent user	B2 Independent user

## PERSONAL SKILLS AND COMPETENCES

Social skills and competences

Used to work in teams of many different kinds of people, with a wide range of interests and profiles. I interact well while proposing new ideas.

Organizational skills and competences

Ability to work in many tasks over the time. I have taken many times the role of coordinator, submitting proposals, preparing and following up the planning, dealing with deadlines and acting as contact-person.

Computer skills and competences

Networking

Ethernet and wireless, IPv4 and IPv6, firewalls, switches/routers managements, and all network services like mail, web, files, DNS, proxies,...

Programing

C, C++, C#, clipper, CORBA, delphi, fortran, HTML, java, lisp, mathematica, perl, PHP, prolog, python, SQL, Step7, subversion, XML, UML, VHDL

Databases

MySQL, ADO, ODBC

Operating Systems

Windows, Windows CE, GNU/Linux

Real Time and Data Acquisitions Systems

GPIB, VXI, PVSS, CANbus, LabView, Xlink

Embedded devices

Smartcards, microcontrollers (PICs), VHDL, FPGA

Documents processing

OpenOffice, MS Office,  $\LaTeX$

## HOBBIES

Activity

Hiking, that not alpinism ;)

## PUBLICATIONS

### Standards development

Participation in the balloting process of several IEEE standards:  
IEEE P802.1ag - Standard for Local and Metropolitan Area Networks - Virtual Bridged Local Area Networks - Amendment 5: Connectivity Fault Management  
IEEE P802.11k - Standard for Information Technology - Telecommunications and information exchange between systems -Local and metropolitan area networks -Specific requirements- Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications Amendment: Radio Resource Measurement of Wireless LANs  
IEEE P802.11n - Information Technology - Telecommunications and information exchange between systems - Local and metropolitan area networks -Specific requirements- Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: Amendment 4: Enhancements for Higher Throughput  
IEEE P802.16k - Standard for Local and Metropolitan Area Networks: Media Access Control (MAC) Bridges - Bridging of 802.16  
IEEE P1003.1 - Information Technology - Portable Operating System Interface (POSIX)  
IEEE P1073 - Health informatics - Point-of-care medical device communication - Technical report - Guidelines for the use of RF wireless technology  
IEEE P1175.2 - Recommended Practice for Case Tool Interconnection - Characterization of Interconnections  
IEEE P1363.1 - Standard Specification for Public-Key Cryptographic Techniques Based on Hard Problems over Lattices  
IEEE P1394 - Standard for a High Performance Serial Bus

### Talks

Sistemas de control en grandes detectores, January 2008g  
Sistemas de control en grandes detectores, March 2009b

### Indexed

Image color-discretization algorithms: implementation and comparison. Imagen-A, 2005.  
ISSN 1885-4508 Prospects for Diffractive and Forward Physics at the LHC. CERN/LHCC 2006-039/G-124, 2007 The TOTEM Experiment at the CERN Large Hadron Collider.  
JINST, 2008 Diffraction at TOTEM.  
HERA LHC workshop, 2008 Design, Development and Verification of the Detector Control System for the TOTEM experiment at the CERN LHC.  
PhD thesis, Universidad de Sevilla, March 2009a TOTEM early measurements.  
Multiple Partonic Interactions 09 conference proceedings, 2009 The TOTEM detector at LHC, 2009

### Non Indexed

TOTEM DCS Hardware Overview Diagrams.  
EDMS 868711 rev. 0.7, 2008a TOTEM DCS Sensors Summary Table.  
EDMS 896905 rev. 0.1, March 2008d Movement Control of the TOTEM Roman Pots.  
EDMS 873014 rev. 0.6, 2008 TOTEM on-line radiation monitoring system.  
EDMS 873014 rev. 0.6, 2008 Operational model of the FESA gateway for the TOTEM Roman Pots.  
EDMS 889422 rev. 0.2, 2008f TOTEM DCS phasing and planning.  
EDMS 896893 rev. 0.1, 2008 TOTEM DCS document catalog.  
EDMS 896895 rev. 0.1, 2007 TOTEM general: Functional and technical requirements.  
EDMS 896896 rev. 0.1, 2008c TOTEM DCS Summary tables.  
EDMS 896903 rev. 0.1, 2008e Finite state machines hierarchy.  
EDMS 896904 rev. 0.1, 2008 Computing resources.  
EDMS 896907 rev. 0.1, 2008b TOTEM DCS ELMB rack proposal.  
EDMS 982044 rev 2.0, December 2008 TOTEM Roman Pots Control System Use Cases Specification.  
EDMS 896907 rev. 0.1, 2008 Pinout tables for the TOTEM roman pots.  
EDMS 945519 rev. 0.2, 2008