

Ciro Autiero

Curriculum Vitae et Studiorum



Personal Data

Date of Birth November 5th, 1977

Nationality Italian

Present Occupation

2011 **Product Owner - System Analyst**, iambOO (Pontedera - Italy), Autostrade Tech (Firenze - Italy).

Description: Developing and testing of safety-system software for railway signalling applications, specifically for SCMT according to ERTMS/ETCS standard. Documentated experience in Level 2 ERTMS projects stated in different countries like Italy, Sweden, Russia, Germany, Saudi Arabia, Australia. Strong experience in technical documentation for requirement and system verify and validation SFS/FRS - SWRS - SAS.

Previous Occupation

2011 **Software Engineer - Software Analyst**, Intecs S.p.A. Ingegneria e Tecnologia del Software (Pisa - Italy), Ansaldo STS - Signalling and Transport Systems (Genova - Italy).

Description: Developing and testing of safety-system software for railway signalling applications, specifically for SCMT according to ERTMS/ETCS standard. Documentated experience in Level 2 ERTMS projects stated in different countries like Italy, Sweden, Russia, Germany, Saudi Arabia, Australia. Strong experience in technical documentation for requirement and system verify and validation SFS/FRS - SWRS - SAS.

2011 **Fixed-Term Assignment as Researcher**, Title: "*Self-Assembly Fluorurated Block Copolymers for Nanostructured and Functionalized Films*", Physics Department "Enrico Fermi" (University of Pisa - Italy), Department of Chemistry and Industrial Chemistry (University of Pisa - Italy).

Description: Study of Microscopic Structure and Stability on the Macroscopic Scale in Polymers

2010 **Fixed-Term Contract as Researcher**, Title: "*Characterization by means of rheology and ESR spectroscopy of recycled polymeric compounds for monolayer production*", Physics Department "Enrico Fermi" (University of Pisa - Italy), Istituto per i Processi Chimico Fisici (IPCF-CNR).

Description: Study of composition and process parameters for producing thermoformed sheets from industrial scrap and recycled PET

2008-2009 **Research Grant**, Title: "*Structural and dynamic properties on different time and length scales in nanocomposite and nanostructured materials for optical nanowriting*", Physics Department "Enrico Fermi" (University of Pisa - Italy), Istituto Nazionale di Fisica della Materia (INFN-CNR) - Laboratorio per le Applicazioni Industriali dei Polimeri PolyLab.

Description: Study of Relaxation and Transport phenomena in Polymers for Optical Data Storage.

Professional Services

2011 **Teaching assistant/tutor of the course "Laboratorio di Fisica II"**, *Physics Undergraduate Degree Programme - Academic Year 2010/2011*, Teacher of the course: Prof. Laura Andreozzi, Physics Department "E.Fermi" (University of Pisa).

Description: Teaching of the most common experiments concerning electricity, magnetism and optics: measurement of voltage and current, fundamental linear and non-linear circuit elements, estimation of the characteristic point of a circuit, resonant circuits, magnetic inductance coefficients, ferromagnetic materials, hysteresis phenomena, optical physics, polarization, interference, diffraction

2010 **Teaching assistant/tutor of the course "Laboratorio di Fisica IVa"**, *Physics Undergraduate Degree Programme - Academic Year 2009/2010*, Teacher of the course: Prof. Isidoro Ferrante, Physics Department "E.Fermi" (University of Pisa).

Description: Teaching of the most common experiments concerning magnetic circuitry, self and mutual inductance coefficients, ferromagnetic materials, hysteresis phenomena, optical physics, polarization, interference, diffraction

2005 - 2011 **Teaching assistant/tutor of the course "Spettroscopia a Radiofrequenza"**, *Applied Physics Undergraduate Degree Programme - Academic Years 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2009/2010*, Teacher of the course: Prof. Marco Giordano, Physics Department "E.Fermi" (University of Pisa).

Description: Teaching the most common experiments in radiofrequency and instrumentation for impedance analysis in the frequency range di 300 KHz - 6 GHz: measure of basic impedances, resonant circuits, frequency filters, NMR resonators

Training Courses

2017 **Training Course on "Principles of Project Management: Manage by Projects and Manage Activities"**, *Stargate Consulting and Training*, iambOO S.r.L., Stargate Consulting Headquarter - Pontedera (IT).

2016 **Training Course on "SketchUp Tool"**, *Autostrade Tech*, iambOO S.r.L., Autostrade Tech Headquarter - Florence (IT).

2016 **Training Course on "WireShark Tool"**, *Autostrade Tech*, iambOO S.r.L., Autostrade Tech Headquarter - Florence (IT).

2013 **Training Course on "Railway Signalling Principles"**, *Ansaldo Academy*, Ansaldo STS, Ansaldo STS - Genova Headquarter (IT).

Education and Training

2005-2010 **PhD in Applied Physics**, *School of Graduate Studies "Galileo Galilei" - University of Pisa*, Physics Department "E.Fermi", Istituto Nazionale di Fisica della Materia (INFN-CNR) - Laboratorio per le Applicazioni Industriali dei Polimeri PolyLab.

Description: Study of relaxation and transport phenomena in polymeric materials, mainly polymethacrilates with azobenzene side chain, functional for optical nanowriting and data storage.

2003–2004 **Laurea Specialistica in Scienze Fisiche - MSci in Applied Physics equivalent**, *University of Pisa*, Physics Department "E.Fermi", Istituto Nazionale di Fisica della Materia (INFM).

Description: Study of relaxation and transport phenomena in molecular and polymeric glass-formers, by means of electron paramagnetic resonance (EPR), differential scanning calorimetry (DSC) and rheometry of viscoelastic materials. Final Grade: 108/110

1997–2003 **Laurea in Fisica - BSc in Physics equivalent**, *University of Pisa*, Physics Department "E.Fermi", Istituto Nazionale di Fisica della Materia (INFM).

Description: Building and characterization of an Electron Paramagnetic Resonance (EPR) spectrometer system, operating in the frequency range 3.9 - 5.75 GHz. Final Grade: 107/110

1991–1996 **Diploma di Maturità Classica - Secondary-school-leaving certificate**, *Final Grade: 60/60*, Liceo Ginnasio "Padre Alberto Guglielmotti", Civitavecchia (Rome, Italy).

Curriculum courses: italian literature, ancient latin and greek languages and literature, english language and literature, history, philosophy, math, physics, chemistry, natural sciences.

Languages

Italian Mother tongue

English Good level of comprehension, speaking and writing.

Scientific Skills

Nanoscale Experimental Techniques Interest in several experimental nanoscopic techniques and applications to soft matter physics. Good knowledge of microfabrication techniques as photolithography, chemical printing and etching, learned during the dedicated PhD course "Nanoscale Experimental Techniques".

SNOM Good knowledge of equipments for Scanning Near Optical field Microscopy applied to the determination of the topology and surface properties of polymer layers for optical writing on the nanoscopic scale. Wide experience in thermal treatment and annealing of substrates for optical nanowriting.

Microwave Transmission Lines Good knowledge of microwave and radiofrequency components: waveguides and coaxial shielded cables, circulators, directional couplers, mixers, microwave sources as klystron reflex and impatt diode, crystal detectors. Good knowledge of instrumentation for microwave circuits testing: spectrum analyzer and network analyzer, microwave synthesizer, power meter.

Electron Magnetic Resonance Excellent knowledge of equipments for EPR spectrometer systems and data acquisition: static magnetic field generator, NMR-probe gauss meter, microwave bridge (direct experience with Bruker 200D SRC bridge), frequency meter, volt meter, temperature control system with liquid and gaseous nitrogen; National Instruments acquisition devices.

Rheometry and Calorimetry Good knowledge of instrumentation for differential scanning calorimetry (DSC) and rheometry: direct experience with calorimeter DSC Perkin Elmer DSC7, rotational stress-controlled rheometer Haake RS150H.

Computer Skills

- Operating Systems Excellent knowledge of the most common open source linux-based operating systems: Fedora-RedHat, Novell-Suse, Debian-GNU Linux, Ubuntu. Excellent knowledge of Microsoft Windows 98, Windows 2000, Windows ME, Windows XP, Windows 7. Good knowledge of Apple Mac OsX since 10.1.
- Programming Languages Interest in the evolution and development of open source operating systems such as Linux; I usually write software code for Linux OS making use of C and bash languages. Good knowledge of programming languages Fortran77, C, Java, Javascript, DHTML, XML. Good knowledge of Windows environment programming languages VB and C#. Excellent knowledge of instrumentation programming language National Instruments LabView.
- Office Softwares Excellent knowledge of the most common softwares for text editing and graphics for Windows and Mac systems: Microsoft Office, Adobe Photoshop, Adobe Acrobat, JASC PaintShop Pro. Excellent knowledge of the most common open source softwares for text editing and graphics: OpenOffice/LibreOffice, Gimp.
- Scientific Softwares Excellent knowledge of softwares for scientific data manipulation and computing: Wavemetrics IgorPro, Microcal Origin, MathWorks Matlab. Excellent knowledge of the most common open source softwares for scientific data manipulation and computing: GnuPlot, Octave.
- Professional Text Editing Excellent knowledge of the professional typographic composition environment LaTeX / TeTex / TexLive. Wide experience in the document predefined styles and types customization. Wide experience in math formulas and graphics composition and in the management of large bibliographies (BibTex).

Other Experiences

- Scientific Divulcation Partecipation to interactive expositions organized in Pisa by the Physics Department and the local INFN section.

Interests

- Econophysics Study of the techniques and methods typical of physics research applied to the analysis of financial markets and economic dynamics. I have studied in deep such arguments following the course "Econophysics" in the Physics PhD programme.
- Reading I greatly appreciate reading books, both in essay and fiction. I have a strong predilection for science fiction. I'm a fan of all genres of movies. I also published reviews of books and films on specialized websites.
- Sports Swimming. Deep-sea fishing. Walking.

Pisa, 04 September 2017

With respect to the Dlg 196/03, I authorize the processing of my personal data.