

# Pier Paolo GRANIERI



**Date of Birth:** January 3<sup>rd</sup>, 1982  
**Civil Status:** Married, no children  
**Citizenship:** Italian

**Address:** route de Rougemont 24,  
CH-1286 Soral  
**Mobile:** +41 (0) 76 220 40 21, +49 1577 622 8324  
**E-mail:** [pier.paolo.granieri@gmail.com](mailto:pier.paolo.granieri@gmail.com)

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## MAIN COMPETENCES

- **Research engineering** for design and analysis of new technologies
- **Energy management**
- **Modelling and analysis** of multi-physics problems including thermodynamics, fluid dynamics, electromagnetics and mechanics, using numerical (FEM) and analytical methods
- **Test engineering:** requirements study, conception of the target solution, design and technical follow-up of test benches, quality assurance, data analysis and interpretation of the results
- **Management** of R&D projects with high technological content at international scale, including budget follow-up, team coordination and training activities

## PROFESSIONAL EXPERIENCE

- June - Sept 2014      **Consultant** for the Engineering & energy department / Science and environment institute  
Buildings office of Canton de Genève / University of Geneva, Switzerland
- Energy management of the physics section of the Science faculty
- Since Apr 2014      **Senior research engineer** in the group Energy applications of superconductors  
KIT (Karlsruhe Institute of Technology), Karlsruhe, Germany
- Leader of the Design and modeling section, to develop technologies for future fusion reactors (DEMO)
  - Management of the project “He II cooling by using micro-technologies”
- May 2011 - Apr 2014      **Senior research energy engineer** in the Cryogenics group  
CERN (European Organization for Nuclear Research), Geneva, Switzerland
- Thermodynamic, electromagnetic, fluid dynamic, mechanical FEM modelling and analysis of the superconducting magnets of the LHC (Large Hadron Collider) particle accelerator
  - Conception, technical follow-up and analysis of the results of test benches for heat transfer measurements of superconducting magnets at low temperature
  - Project management activities on large scale projects and team coordination (4 engineers, 2 technicians, 2 mechanics)
  - Responsible for international collaborations with research institutes, universities and private companies, as well as with other CERN groups
  - Training and teaching (Master) activities, both at CERN and outside of the Organisation
- Mar 2011 - Apr 2011      **Senior consultant** in the Accelerators, cryogenics and magnetism department  
CEA (Commissariat à l'énergie atomique et aux énergies alternatives), Saclay, France
- Conception, technical follow-up and analysis of the results of a new experimental method to measure heat transport in superfluid helium through micro-channels
  - Management of the CERN-CEA collaboration, definition of the common research projects
- Apr 2008 - Mar 2011      **Research engineer** in the Magnets, superconductors and cryostats group  
CERN (European Organization for Nuclear Research), Geneva, Switzerland
- Thermo-electrical FEM modelling and analysis of complex superconducting systems of the LHC and of the ITER (International Thermonuclear Experimental Reactor) projects
  - Conception and technical follow-up (thermal, mechanical and electrical characterization) of a new thermally enhanced electrical insulation of superconducting cables
  - Project management and supervision activities
  - Building scientific collaborations with research institutes and universities

- Dec 2006 – Jan 2008     **Junior engineer** in the Magnets tests and measurements group  
CERN (European Organization for Nuclear Research), Geneva, Switzerland
- Conception of a heat transfer model in superconducting cables and thermo-electrical FEM modelling of the LHC magnets with respect to losses of the proton beam
- Jul 2004 – Nov 2005     **Intern** in the Electrical engineering department and Magnets tests and measurements group  
University of Bologna, Italy and CERN, Geneva, Switzerland
- Thermo-electrical FEM modelling and analysis of several superconducting cables for magnets providing high or pulsed magnetic fields

## EDUCATION

- Jan 2014 - Sept 2014     **Certificate of Advanced Studies, Management of energy**  
University of Geneva, Switzerland
- Aug 2012     **Doctoral program, Heat transfer in the LHC superconducting magnets**  
EPFL (Ecole Polytechnique Fédérale de Lausanne), Switzerland
- Mar 2008     **Master of Science, Mechanical engineering, major: Power plants and energetic systems**  
University of Bologna, Italy
- Two prizes awarded for the MSc thesis (1<sup>st</sup> classified), by Edison SpA and Accenture SpA
  - Member of the Italian Society of Professional Engineers since 2009
  - Erasmus Program: 1 year spent at the EPF Ecole d'ingénieurs Sceaux (Paris), France

## SKILLS

<b>Languages</b>	<b>Italian:</b> Native <b>French:</b> Fluent (working language) <b>German:</b> Beginner	<b>English:</b> Fluent (working language) <b>Spanish:</b> Good
<b>Computer skills</b>	<b>Operating Systems:</b> <b>Programming:</b> <b>CAD (Computer-Aided Design):</b> <b>FEM (Finite Element Method):</b> <b>Data analysis:</b> <b>Project management:</b> <b>Other:</b>	Windows, UNIX, OS C, Fortran Pro-Engineer, Inventor, AutoCAD COMSOL, in-house developed codes MATLAB, Microcal Origin MS Project MS Office, LaTeX

## PUBLICATIONS, CONFERENCES, TEACHING AND OTHER

- In the fields of applied superconductivity and cryogenics:
  - 26 publications in international refereed journals
  - Participation at 13 conferences/workshops
  - Technical editor since 2011 as well as referee since 2007 for international journals
  - More than 30 seminars given
  - Lecturer at the University Mediterranea of Reggio Calabria, Italy: 30 hours course funded by the Italian Ministry of education, university and research
- Member of the Italian Society of Professional Engineers since 2009

## INTERESTS

Tennis player (ranked C3 in Italy, 15/5 in France) and instructor, member of the managing board of the Tennis Club Ferney-Voltaire, long distance hiking, volunteer work (Ingénieurs Sans Frontières, samedi du partage)