



Curriculum Vitae Europass

Personal information

First name / Surname **Carmine Zappacosta**
Address Via San Jacopo n° 201 – 56123 Pisa (Italy)
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E-mail c.zappacosta@italcertifer.com
Nationality Italian
Place and date of birth Campobasso, July 3rd 1978
Sex M

Work experience

Dates	February 2012 – present.
Occupation or position held	Head of Testing Authority and CSM Departments. Safety Testing Leader. Professional Senior Certification officer
Main activities and responsibilities	Safety testing leader in certification process of rolling stock. Electromagnetic compatibility and electrical equipment rolling stock expert, CSM assessor, Relations with Institutions and Universities, Scientific advisor in the project SIMPLE (railway safety in automatic level crossings), Attending evidence of rolling stock (doors, electrical equipment, etc.), Supervisor in test of rolling stock in High Speed Line (eg. V300 Zefiro ETR 1000 in tests with speeds up to 390 km/h).
Employer	Italcertifer S.p.A. FS Holding – Largo Fratelli Alinari, 4 – 50123 Firenze (FI).
Type of business or sector	Notified body in the railway sector accredited by the Italian Ministry of Transport and Infrastructure; Independent Safety Validator accredited by the National Railway Agency for Safety; railway functional tests.
Dates	January 2008 – January 2012
Occupation or position held	Research Fellow
Main activities and responsibilities	The main research activity was about methods and measurement for sensorless characterization of magnetic materials and power quality measurement in PV plants. Analysis and measurement of radiated emissions conducted within electromagnetic compatibility tests in different fields, mainly in the railway sector. Measurements of shielding effectiveness. Power quality measurements. Measurement in rolling stock systems. Participation in different projects for developing devices based on hydrogen technologies and PV systems. Participation in a project aimed at converting a ship intended to carry goods and people into an innovative laboratory-boat for power quality measurement in presence of non traditional energy production plants, such as photovoltaic and fuel cells. Participation in measurement for the acoustic characterization of an innovative industrial system for the treatment of polluted soils.
Employer	Department of Electric Systems and Automation - Faculty of Engineering - University of Pisa - Largo Lucio Lazzarino – 56122 Pisa.
Type of business or sector	Education and Research.
From - to	2009 – 2011
Occupation or position held	Contributor to the project “H2 Hydrogen Chain” funded by the Tuscany Region and conducted by the University of Pisa and the Sant’Anna School of Higher Studies Pisa.

Main activities and responsibilities	Design and assembly of a new hydrogen auxiliary system board (hydrogen storage in metal hydrides equipments and power generation with fuel cells) for pleasure boats.
Employer	Department of Electric Systems and Automation - Faculty of Engineering - University of Pisa - Largo Lucio Lazzarino – 56122 Pisa.
Type of business or sector	Education and Research.
From-to	June 2004 – December 2004
Occupation or position held	Research internship at Enel Ricerca, Pisa.
Main activities and responsibilities	Preliminary design of a cogeneration system based on a new hydrogen-fed gas turbine with steam injection.
Employer	Enel Ricerca – Via Andrea Pisano – Pisa.
Type of business or sector	Energy.

Education and training

Education	<p>2009 Ph.D in “Energy, Electric and Thermal Engineering” major in “Electromagnetic Systems and Devices” from the Department of Electric Systems and Automation of the Faculty of Engineering of the University of Pisa with a thesis on “Analysis and characterization of soft magnetic materials”.</p> <p>2004 Master’s Degree in Electric Engineering with a score of 110/110 from the University of Pisa with a thesis about “A Dynamic Model of a Steam Reformer Model – Fuel Cells” carried out at Enel Research Pisa.</p> <p>1997 High School Diploma with a score of 52/60 from High School Mario Pagano in Campobasso.</p>
Other training	<p>2014 Participation and passing the exam of the course "Risk Analysis in Railway System" organized by ASSTRA, Roma.</p> <p>2010 Participation in the High Education Program on Energy at Toscana Energia, University of Pistoia.</p> <p>2007-2009 Participation in the three year seminar “Italo Gorini” organized by the PhD School “Italo Gorini” on Measurement methodologies and devices in various industrial fields.</p> <p>2006 - 2011 Teaching assistant in “Electrotechnics”, “Electromagnetic continuum”, “Industrial electromagnetic compatibility”, “Electrical measurements” and “Electrical equipments” at the Faculty of Engineering of the University of Pisa.</p> <p>2005 Participation in the 21rst Theoretical and Practical Course in Magnetic Measurements and Materials”, April 19th-22nd, Istituto Elettrotecnico Nazionale “Galileo Ferraris”, Torino.</p>

Teaching experience

From-to	2005 – 2011
Courses held	Taught Electrotechnics, Electromagnetic Compatibility, Electric Measures and Electric Equipments and was a member of the examination committee at the Faculty of Engineering of the University of Pisa. Tutoring activity for various degree thesis.
Institution	Faculty of Engineering University of Pisa – Largo Lucio Lazzarino – 56122 Pisa (PI).

Research activity

Date	2005 – 2011
Main fields of interest	<ul style="list-style-type: none"> • industrial electromagnetic compatibility; • experimental analysis and measurement of electromagnetic fields changing in time and space in continuous nonlinear media; • Characterization of magnetic materials and modeling of scalar and vector hysteresis • Characterization and modeling of nonlinear shields; • Experimental analysis and measurement of fast electromagnetic transients; • Studies on discharge in catenary/pantograph coupling; • Methods, Measurements and Instrumentation in electrical equipment of the railway sector; • Study and measurement of power quality in distributed generation systems (fuel cells, photovoltaic, etc.);

- current transducers and voltage (i.e. Rogowski coil);
- Lithium batteries for vehicles and boats.

Many researches have been conducted in collaboration with research units from various universities, both in Italy and abroad such as the University of Perugia (Italy), the "Universidad Carlos III" of Madrid (Spain), the "Universidad Pontificia Comillas" of Madrid (Spain), the "Center for Nonlinear Science" of the University of North Texas" (USA), with research centers such as ENEA and with industrial partners (i.e. Prysmian Cable & Systems, Enel Ricerca, etc.).

Publications

1. M. R. Moreno, G. Robles, B. Tellini, **C. Zappacosta**, J. M. Martínez, J. Sanz "Study of an Inductive Sensor for Measuring High Frequency Current Pulses", Instrumentation and Measurement, IEEE Transaction on, Vol 60, Issue 5, 2011, p. 1893-1900.
2. M. Marracci, G. Robles, B. Tellini, **C. Zappacosta**, "Critical Parameters for Mutual Inductance between Rogowski Coil and Primary Conductor", Instrumentation and Measurement, IEEE Transaction on, Vol 60, Issue 2, 2011, p. 625-632.
3. M. Bologna, A. Petri, B. Tellini, **C. Zappacosta**, "Effective Magnetic Permeability Measurement in Composite Resonator Structures", Instrumentation and Measurement, IEEE Transaction on, Vol. 59, Issue 5, May 2010, p. 1200-1206.
4. M. Marracci, B. Tellini, **C. Zappacosta**, "Shielding Effectiveness Measurements for Ferromagnetic Shields", Instrumentation and Measurement, IEEE Transaction on, Vol 58, Issue 1, Jan. 2009, p. 115-121.
5. E. Cardelli, S. Di Fraia, B. Tellini, **C. Zappacosta**, "Analysis and Simulation of Rotating Magnetic Field Diffusion through a Parallelogram Hysteresis Model", Magnetism, IEEE Transactions on, Vol. 43, Issue 4, April. 2007, p.1409 – 1412.
6. M. Rojas, G. Robles, B. Tellini, **C. Zappacosta**, J. M. Martinez, J. Sanz, "An Inductive Transducer for the Measurement of High Frequency Pulses with Applicability in the Detection of Partial Discharges", Instrumentation and Measurement Technology Conference Proceedings, 2010, I2MTC 2010, IEEE, 10-12 May, Austin, p. 375-379.
7. M. Bologna, A. Petri, B. Tellini, **C. Zappacosta**, "Effective Magnetic Permeability Measurement in Composite Resonator Structures", Instrumentation and Measurement Technology Conference Proceedings, 2009, I2MTC 2009, IEEE, 5-7 May, Singapore, p. 472-476.
8. G. Becherini, S. Di Fraia, M. Marracci, G. Robles, B. Tellini, **C. Zappacosta**, "Critical Parameters for Mutual Inductance between Rogowski Coil and Primary Conductor", Instrumentation and Measurement Technology Conference Proceedings, 2009, I2MTC 2009, IEEE, 5-7 May, Singapore, p. 432-436.
9. M. Marracci, B. Tellini, **C. Zappacosta**, "FEM Analysis of Rogowski Coils Coupled with Bar Conductors", IMEKO TC-4, 2009, September 6-11, Lisbona, vol. CD, n. p. 5.
10. G. Robles, J. M. Martinez, M. Rojas, J. Sanz, B. Tellini, **C. Zappacosta**, "Designing and Tuning an Air-cored Current Transformer for Partial Discharges Pulses Measurements", Instrumentation and Measurement Technology Conference Proceedings, 2008, IMTC 2008, IEEE, 12-15 May, Vancouver, p. 2021-2025.
11. R. Giannetti, M. Marracci, B. Tellini, **C. Zappacosta**, "VI-Characterization of Soft Magnetic Materials by Driving Current or Voltage", IMEKO TC-4, 2008, Firenze, vol. CD, p. 20-24.
12. M. Marracci, B. Tellini, **C. Zappacosta**, "Shielding Effectiveness Measurements for Ferromagnetic Shields", Instrumentation and Measurement Technology Conference Proceedings, 2007, IMTC 2007, IEEE, 1-3 May 2007, Varsavia, p. 1-5.
13. E. Cardelli, S. Di Fraia, A. Faba, B. Tellini, **C. Zappacosta**, "FEM Approach to the Numerical Simulation of Vector Hysteresis", Electromagnetic Field Computation, 2006 12th Biennial IEEE Conference on, proceedings CEFC 2006, IEEE, 2006, Miami, p. 214.
14. E. Cardelli, S. Di Fraia, B. Tellini, **C. Zappacosta**, "Analysis and Simulation of Rotating Magnetic Field Diffusion through a Parallelogram Hysteresis Model", Electromagnetic Field Computation, 2006 12th Biennial IEEE Conference on, proceedings CEFC 2006, IEEE, 2006, Miami, p. 97.
15. M. Marracci, B. Tellini, **C. Zappacosta**, "Determinazione dei Parametri Critici per la Mutua Induttanza tra

Bobina di Rogowski e Conduttore Primario”, proceeding XXVI Congresso Nazionale GMEE, 16-19 Settembre 2009, Salerno.

16. M. Marracci, B. Tellini, **C. Zappacosta**, “*Caratterizzazione Volt-Amperometrica di Materiali Magnetici Dolci mediante Pilotaggio in Corrente e in Tensione*”, proceeding XXV Congresso Nazionale GMEE, 7-10 Settembre 2008, Monte Porzio Catone (RM).
17. M. Marracci, B. Tellini, **C. Zappacosta**, “*Misura del Comportamento Magnetico di Materiali Compositi*”, proceeding XXV Congresso Nazionale GMEE, 7-10 Settembre 2008, Monte Porzio Catone (RM).
18. S. Di Fraia, M. Marracci, B. Tellini, **C. Zappacosta**, “*Caratterizzazione di Materiali Magnetici via Tecnica Sensorless*”, proceeding XXIV Congresso Nazionale GMEE, 5-8 Settembre 2007, Torino.
19. S. Di Fraia, M. Marracci, B. Tellini, **C. Zappacosta**, “*Un Nuovo Approccio alla Misura di Efficienza di Schermatura di Schermi Ferromagnetici*”, proceeding XXIV Congresso Nazionale GMEE, 5-8 Settembre 2007, Torino.
20. **C. Zappacosta** et al., “*Hydrogen-fed Gas Turbine with Steam Injection and Co-Generation*”, proceedings Power Gen, 2005, Milano.
21. **C. Zappacosta** et al. “*Comportamento dinamico dei sistemi di processamento del combustibile per Fuel Cell*”, proceedings Congresso ATI, Settembre 2004, Genova.

Other experiences

From 2008 to 2010 President of the Permanent Council Commission of the City of Pisa “Use and land use” (environment, urban planning, private buildings and traffic), public works (public housing and primary urbanization).

Design of electrical plants in residential and public buildings.

Head of production and logistics manager of public entertainment events of international importance.

Personal skills

Mother tongue

Italian

Other languages

English

European level (*)

English

Understanding		Speaking		Writing	
Listening	Reading	Spoken interaction	Spoken production		
good	good	good	good	good	

(*) *Common European Framework of Reference for Languages*

Social skills

Adaptability, availability, flexibility, great disposition to teamwork and to multicultural environments, keen insight and practical common sense.

Organizational skills

Excellent management and communication skills (acquired either through work projects, and through voluntary work). Willingness to travel.

Computer skills

Excellent computer skills in a Microsoft Windows environment. Knowledge of programs for library research, Matlab (including Simulink), Aspen, Ansys, GateCycle, Femlab, Multiphysics.

Driving licence

A and B

I hereby declare that the information and record(s) submitted as indicated above is true and correct to the best of my knowledge and belief.

Date

February 11th 2016

Signature

CARMINE ZAPPACOSTA