

Carlo Baldisserri PhD - Curriculum Vitae et Studiorum

PERSONAL INFORMATION

Nationality: Italian

Contact: carlo.baldisserri@issmc.cnr.it

EDUCATION

Degree: Doctor of Philosophy (*Ph.D. by Research*)

Year: 2007

Institution: University of Limerick (EIRE), Physics Department

Topic: *In situ* optical characterization of solid/liquid electrochemical interfaces

Activities: Design and construction of a spectroscopic ellipsometry *in situ* electrochemical cell fitted with optical windows, to be coupled to a spectroscopic ellipsometer.

Development of a mathematical description of the whole measuring system to provide reliable estimates of the experimental errors due to optical misalignments.

Design and development of LabView software for controlling a multi-instrument set-up to achieve electrochemical data acquisition and processing.

Design and development of LabView software for the analysis of spectroscopic ellipsometry data measured *in situ* using the above equipment and mathematical description

Thesis Title *A study by spectroscopic ellipsometry of the structure and electrochemistry of copper surfaces*", University of Limerick, 2007.

Final Grade: **Hon.** The Doctor of Philosophy Degree (Ph.D.). On 27/11/2009 the Ph.D. degree was recognized by the Italian Ministry for Education and Research as being equivalent to the Italian academic degree of **Dottore di Ricerca**

Degree: **Master Degree in Physics** (Laurea in Fisica Quadriennale, Indirizzo Applicativo del Vecchio Ordinamento)

Year: 1999/2000

Institution: Università degli Studi di Bologna

Thesis Title: Electrochemical passivation of indium phosphide using cyclic voltammetry, potentiostatic experiments and AC impedance)

Main subjects: General Physics, Mathematics, Solid State Physics, Semiconductors Physics, Semiconductors Electrochemistry

Final Grade: 110/110

Degree: **Certificate in Mechanical Engineering** (*Diploma di Perito Industriale Capotecnico – Settore Meccanica*), 5-year.

Year: 1978

Institution: Istituto Tecnico Industriale, Faenza (RA), Italy
Subjects: Applied Mechanics, Fluid Machines, Mechanical Technology, Technical Drawing, Mechanical Machining and Tooling.
Final Grade: 58/60

WORK EXPERIENCE

Date December 2018 –
Position Full Researcher
Employer: CNR ISTEK, Italy's National Research Council
Responsibilities: ISTEK-CNR Electrical Characterizations Laboratory Responsible. Design and construction of experimental devices for research in the fields of materials science and engineering and nanosystems. Research in piezoelectric materials and nanomaterials and their applications.

Date July 2017 – December 2018
Position Researcher
Employer: CNR ISTEK, Italy's National Research Council
Responsibilities: ISTEK-CNR Electrical Characterizations Laboratory Responsible. Design and construction of experimental devices for research in the fields of materials science and engineering and nanosystems. Research in piezoelectric materials and nanomaterials and their applications

Date June 2015 – June 2017
Position Contract Researcher
Employer: CNR ISTEK, Italy's National Research Council
Responsibilities: Design and construction of experimental devices for research in the fields of materials science and engineering and nanosystems

Date June 2013–June 2015
Position Technology Manager
Employer: Tozzi Renewable Energy SpA, Mezzano (RA) – Arnesano (LE)
Responsibilities: Study and optimization of large-area glass third-generation photovoltaic and photovoltachromic modules production flow-chart.
Design and construction of electronic circuitry and measuring apparatuses for characterizing the electrical and optical performance of integrated electrochromic\photovoltaic modules.

Date November 2012 - June 2013
Position Researcher
Employer: ISTEK-CNR, Faenza (RA), Italy

Responsibilities:	Responsible Person in Charge of the Electrical Characterization Laboratory at CNR-ISTEC: external calibration procedures, maintaining and updating instrumentation calibration records for measurements accreditation purposes, as mandated by the laws and rules of the Italian state and the Emilia Romagna Region Responsabile del Characterization of piezoelectric ceramics and devices based thereupon by impedance spectroscopy. Electrophoretic deposition of thick films and laminated thick films from ceramic suspensions (piezoelectric, dielectric, and magnetic materials). Electrochemical and electrical characterization of the electrophoretic deposition process on metallic and semiconductor substrates. Electrical characterization of bulk and thick film magnetodielectric ceramics. Design and construction of electrophoretic deposition apparatuses. Selection, procurement, and commissioning of electronic instrumentation. Experimental activities carried out as services to the Industry. Membership of the Junior Researcher Entry Level Personnel Selection Board.
Period	February 2011- November 2012
Position	Contract Researcher
Employer:	ISTEC-CNR, Faenza (RA), Italy
Responsibilities:	Impedance spectroscopy of piezoceramics and piezoelectric devices. Design, characterization and testing of colloidal suspensions of magnetic and piezoelectric ceramics to be used in electrophoretic deposition applications. Electrophoretic deposition of ceramic materials Design and construction of a dip-coating apparatus. Industrial applied research contracts.
Period	June 2010–February 2011
Position	Contract Researcher
Employer:	Consorzio Spinner 2013, Regione Emilia Romagna/Colorobbia Italia SpA, Italy
Responsibilities:	Experimental investigations on possible applications of the electrophoretic deposition process to metallic and magnetic nanomaterials sospense in polyols.
Period	February 2009 –May 2010
Position	Contract Researcher
Employer:	ISTEC-CNR, Faenza (RA), Italy
Responsibilities:	Electroacoustic characterization of colloidal suspensions. Design and construction of electrophoretic deposition systems. Electrophoretic deposition of oxidic and ceramics thick films.
Period	September 2006 –February 2009
Position	Secondary School Teacher
Employer:	MIUR (Italian Ministry of Education, University and Research).
Responsibilities:	Teaching assignments: Electronics, Physics, Electronics Labs, Physics Labs, Electronic Systems Membership of Italy's Technical Leaving Cert Examination Board (2008, Electronic Systems).
Period	September 2005 – August 2006
Position	Research Assistant
Employer:	Materials and Surface Science Institute (MSSI), University of Limerick (EIRE).

Responsibilities: Design, machining and construction of an experimental apparatus for measuring and recording thermal depolarization pico-currents in hydroxyapatite ceramics at high temperature.
Design and development of data acquisition and processing LabView software.

Period September 2002 – May 2006
Position University Teaching Assistant
Employer: Physics Department, University of Limerick (EIRE).
Responsibilities: Tutoring/marking (Physics, Physics Labs) for 1st- and 2nd-year University students (Engineering, Science Teaching, Sport Science).

Period 2004 – 2006
Position IRCSET Scholar
Employer: Physics Department, University of Limerick (EIRE)
Responsibilities: Theoretical and experimental research funded by IRCSET (Irish Research Council for Science, Engineering and Technology). In situ optical characterization of metal/solution electrochemical interfaces and study of the formation of anodic films on copper electrodes (in partial fulfillment of the requirements for the Degree of Doctor of Philosophy (PhD)).
Laboratory management, design and construction of several experimental systems using mechanical workshop equipment. Design and construction of laboratory electronic circuitry, development of LabView software for data acquisition and processing using the GPIB and RS232 interfaces.

Period 2000 – 2002
Position Research Assistant
Employer: Physics Department, University of Limerick (EIRE)
Responsibilities: Construction of some non-standard experimental systems for electrochemistry (gas-tight electrochemical cells, electronic circuitry, reference electrodes).
Investigations on the electrochemical formation of anodic films on copper electrodes.

Period 1995 – 1996
Position Forklift Operator and Shipping Manager
Employer: KNAUF di Lothar Knauf sas, Riolo Terme (RA), Italy
Responsibilities: Shipping of building materials according to shipping schedule and computerized editing of accompanying documents.

Period 1974 – 1994
Position Farm'hand and Food Processing Worker
Employers: Various in farming and farming products processing
Responsibilities: Various.
Period June 1977 – September 1977
Position Metal sheet apprentice worker
Employer: ORAL di Chiodini Terenzio, Imola (BO), Italy
Responsibilities: Cold working , arc welding, finishing of metal sheet products.

EXPERIMENTAL SKILLS

Standard aqueous electrochemistry at metallic and semiconductor electrodes
Standard electrical characterizations (resistivity, conductivity) (metals, semiconductors, ceramics, dielectrics, piezoelectrics, ionic solutions, colloidal suspensions).
Physical vapor deposition of thin and thick films.
Spectroscopic ellipsometry (*in situ* and *ex situ*), optical transmittance.
Impedance spectroscopy.
Piezoelectric characterizations.
Ferroelectric hysteresis in ceramic materials.
Electroacoustic characterization of colloidal suspensions.
Electrophoretic deposition.
Profilometry.
Scanning electron microscopy sample preparation.
Optical microscopy and scanning electron microscopy (SEM).

TECHNICAL SKILLS

Mechanics and Electromechanics

Design of mechanical elements.
Mechanical machining (turning, drilling, milling, threading, etc.)
Arc welding, brazing, soldering.
Electromechanical systems for Lab scale applications.

Third-Generation Photovoltaics and Electrochromic Devices

Precision screen-printing (manual and automated): oxides, glass frits, electrochromic materials, nanoparticulated catalysts, on conductive ITO/Glass substrates. Thermal and sintering cycles on the above materials: optimization for materials activation and glass-to-glass sealing by glass frit bonding.

Analog Electronic Circuitry

Prototypal active and passive electronics for Laboratory applications using discrete components, such as BJTs, FETs, BJT/FET input op-amps, passive RLC networks (filtering, timing), integrators, oscillators, current-to-voltage transducers (photodiodes, etc), ADCs and DACs, DC power supplies (up to 500 V), op-amp-based potenziostats and galvanostats, sample holders for electrical characterizations, vacuum tubes circuitry (including design), winding and construction of small-power transformers (up to 300 VA).

Circuitry and Equipment for High-Voltage Applications

High-voltage experimental setups for ferroelectric measurements (P-E loops, ± 4 kV): design and construction of software/hardware DAQ solutions employing low- and high-voltage signal generation and signal amplification units coordinated by self-produced NI LabView software applications.

Ferroelectric poling of ferroelectric ceramics at voltages up to 50 kV, with design and construction of optimized high-voltage-withstanding sample holders according to experimental needs. Diagnostic and correction of equipment malfunctioning as required. Update of related technical and safety documents.

Conversion of rheological experimental equipment to high-voltage electrorheology configurations, with design, testing and construction of electrorheological detectors as required by fundamental research and applications.

Experimental Strategies and Solutions

Viability evaluations and practical implementation of proposed electromagnetic experimental strategies across all fields of applicative research and Research Groups in the Institutions.

Data Acquisition (DAQ) and Processing Software

Development of NI LabView applications for the control and coordination of complex DAQ systems (using instrument-specific ASCII commands over GPIB and RS232 interfaces, USB-to-GPIB and GPIB-to-USB modules also included)

Development of NI LabView applications for data processing

The above skills have been applied to the development of several DAQ systems over more than ten years of on-field applications, such as general electric measurements, electrochemistry, photonics.

LANGUAGES

Italian (native)

English (full professional knowledge)

PEER-REVIEWED PUBLICATIONS

- 28) Mariani, M; Bertolini, F; Mercadelli, E ; Blanco, GF; **Baldisserri, C**; Sanchez-Herencia, AJ; Galassi, C ; Ferrari, B ; Lecis, N, *Spray drying granulation of potassium sodium niobate (KNN) for binder jetting: Feedstock preparation and influence on sintered material properties*, Open Ceramics 21 (2025), DOI: 10.1016/j.oceram.2025.100743
- 27) Laura Silvestroni, **Carlo Baldisserri**, Jacopo Matteo Tabaglio, Nicola Gilli, Jeremy Watts, Steven M. Smith II, Gregory E. Hilmas, William G. Fahrenholtz, *Compositionally complex diborides: competing solubility during sintering and properties*, Acta Materialia (2025), doi: <https://doi.org/10.1016/j.actamat.2025.120803>
- 26) Rossi A, *et al.*, *Magnetically induced anisotropic structure in an injectable hydrogel for skeletal muscle regeneration*, Journal of Colloid and Interface Science 678, 334-345, Part C, DOI: 10.1016/j.jcis.2024.09.121 (2025)
- 25) Smith SM *et al.*, *Impact of TiB₂ source on the microstructure and properties of Tb₂-SiC-B₄C ceramics*, Journal of the American Ceramic Society 107 (10), 6692-6670 (2024)
- 24) Bertolini F *et al.*, *3D printing of potassium sodium niobate by binder jetting: Printing parameters optimisation and correlation to final porosity*, Journal of Materials Research and Technology 29 4597-4696 (2024)
- 23) F, Craciun *et al.*, *Flexible composite films with enhanced piezoelectric properties for energy harvesting and wireless ultrasound-powered technology*, Composites Part B: Engineering 263, 2023 110835
- 22) M. Mariani *et al.*, *Additive Manufacturing of Piezoelectric Niobium-Doped Lead Zirconate Titanate (PZT-N) by Binder Jetting*, Crystals 2023, 13(6), 883; <https://doi.org/10.3390/cryst13060883>
- 21) E. Migliori, E. Mercadelli, R. Beltrami, M. Mariani, **C. Baldisserri**, C. Galassi, N. Lecis, *Influence of chemically synthesized powder addition on K_{0.5}Na_{0.5}NbO₃ ceramics' properties*, Journal of Materials Science: Materials in Electronics 33, 21270-21286 (2022)
- 20) M. Mariani, R. Beltrami, E. Migliori, L. Cangini, E. Mercadelli, **C. Baldisserri**, *Additive manufacturing of lead-free KNN by binder jetting*, Journal of the European Ceramic Society 42 (13) (2022), 5598-5605
- 19) C. Minelli *et al.*, *Versailles project on advanced materials and standards (VAMAS) interlaboratory study on measuring the number concentration of colloidal gold nanoparticles*, Nanoscale, 2022, 14, 4690-4704
- 18) P. Galizia, **C. Baldisserri**, E. Mercadelli, C. Capiani, C. Galassi, M. Algueró, *A Glance at Processing-Microstructure-Property Relationships for Magnetolectric Particulate PZT-CFO Composites*, Materials, 2020, 13, 2592
- 17) R. Beltrami, E. Mercadelli, **C. Baldisserri**, C. Galassi, F. Braghin, N. Lecis, *Synthesis of KNN powders: Scaling effect of the milling step*, Powder Technology 375 (2020), 101-108
- 16) S. Ortelli, F. Belosi, R. Bengalli, F. Ravegnani, **C. Baldisserri**, M. Perucca, N. Azoia, M. Blosi, P. Mantecca, A. L. Costa, *Influence of spray coating process parameters on the release of TiO₂ particles for the production of antibacterial textile*, Nanoimpact 19 (2020) 100245

- 15) P. Galizia, M. Anbinderis, R. Grigalaitis, J. Banys, **C. Baldisserri**, G. Maizza, C. Galassi, *Magneto-dielectric characterization of TiO₂-CoFe₂O₄ derived ceramic composites*, Processing and Applications of Ceramics 12 [4] (2018) 350-356
- 14) **C. Baldisserri**, S. Ortelli, M. Blosi, A. L. Costa, *Pilot-Plant Study for the Photocatalytic/Electrochemical Degradation of Rhodamine B*, Journal of Environmental Chemical Engineering (2017)
- 13) F. Martina, M. Pugliese, M. Serantoni, **C. Baldisserri**, A. Maggiore, G. Gigli, V. Maiorano, *Large area self-powered semitransparent trifunctional device combining photovoltaic energy production, lighting and dynamic shading control* Solar Energy Materials and Solar Cells 160 (2017) 435-443
- 12) **C Baldisserri**, A L Costa, *Electrochemical detection of copper ions leached from CuO nanoparticles in saline buffers and biological media using a gold wire working electrode*, J Nanopart Res (2016) 18:96 DOI10.1007 /s11051-016-3403-4
- 11) P. Galizia, **C Baldisserri**, C. Capiani, C. Galassi, *Multiple parallel twinning overgrowth in nanostructured dense cobalt ferrite*, Materials & Design 109 (2016), 19-26
- 10) M. Cernea, R. F. Negrea, I. V. Ciuchi, **C. Baldisserri**, R. Trusca, C. Galassi, *Dielectric characterization of Ba_xSr_{1-x}Fe₁₂O₁₉ (x=0.05-0.35) ceramics*, Ceramics International 42 (1), B (2016), 1050-1056
- 9) P Galizia, **C Baldisserri**, C Galassi “*Microstructure development in novel titania-cobalt ferrite ceramic materials*” Ceramics International. Volume 42, Argomento 2, Parte A, 2016, Pagine 2634-2641. Online dal 20 Ottobre 2015. doi:10.1016/j.ceramint.2015.10.069
- 8) P Galizia, I V Ciuchi, D Gardini, **C Baldisserri**, C Galassi “*Bilayer thick structures based on CoFe₂O₄/TiO₂ composite and niobium-doped PZT obtained by electrophoretic deposition*” Journal of European Ceramic Society. Volume 36, Argomento 2, 2016, Pagine 373–380. Online 12 Agosto 2015. doi:10.1016/j.jeurceramsoc.2015.07.038
- 7) R. Grisorio, L. De Marco, **C. Baldisserri**, F. Martina, M. Serantoni, G. Gigli e G.P. Suranna, *Sustainability of Organic Dye-Sensitized Solar Cells: The Role of Chemical Synthesis*, ACS Sustainable Chem. Eng., 2015, 3 (4), pp 770–777
- 6) C.S. Olariu, L. Padurariu, R. Stanculescu, **C. Baldisserri**, C. Galassi, L. Mitoseriu, *Investigation of low field dielectric properties of anisotropic porous Pb (Zr,Ti) O₃ ceramics: Experiment and modeling*, Journal of Applied Physics 114 (21), 214101 (2013)
- 5) M. Aldrigo, A. Costanzo, D. Masotti, **C. Baldisserri**, I. Dumitru, C. Galassi, *Numerical and experimental characterization of a button-shaped miniaturized UHF antenna on magneto-dielectric substrate*, International Journal of Microwave and Wireless Technologies Vol. 5, Sp. Issue 03, June 2013, pp. 231-239
- 4) **C. Baldisserri**, D. Gardini, C. Galassi, *Sharp silicon/lead zirconate titanate interfaces by electrophoretic deposition on bare silicon wafers and post-deposition sintering*, Sens Act A: Physical 174 (2012) 123-132
- 3) **C. Baldisserri**, D. Gardini, C. Galassi, *A Controlled Colloidal Destabilization Approach for the Electrophoretic Deposition (EPD) from Cobalt Ferrite and Magnetite Nanoparticles Suspensions in Diethylene Glycol*, **Key Eng. Mat.**, **507 (2012)** 85-88.
- 2) **C. Baldisserri**, D. Gardini and C. Galassi, *An Analysis of Current Transients during Electrophoretic Deposition (EPD) from Colloidal TiO₂ Suspensions*, J. Coll. Inter. Sci.347 (2010) 102–111.
- 1) S.A.M. Tofail, **C. Baldisserri**, D. Haverty, D. J.B. McMonagle, J. Ehrart, *Pyroelectric surface charge in hydroxyapatite ceramics*, Journal of Applied Physics 106, 106104 (2009).

BOOK CHAPTERS

D. Gardini, **C. Baldisserri**, C. Galassi, *The central role of interparticle forces in colloidal processing of ceramics*, in: Colloid and Interface Chemistry for Nanotechnology, 131-153 (2013)

CONFERENCES

- E. Mercadelli, A. Tavolaro, A. Gondolini, D. Gardini, **C. Baldisserri**, F. Bertolini, D. Mombelli, N. Lecis, C. Galassi, R. Morelli, C. Conidi, A. Cassano, A. Sanson, P. Galizia "Porous BCZT ceramics for energy harvesting and water microfiltration" XIXth Conference of the European Ceramic Society (XIX ECERS), August 31 – September 4, 2025, Dresden, Germany (Poster). <https://www.ecers2025.org/>
- M. Mariani, E. Migliori, L. Cangini, E. Mercadelli, **C. Baldisserri**, C. Galassi, N. Lecis, *Binder Jetting of Lead-Zirconium Titanate*, IX Jornadas de Jovenes Investigadores (2021)
- C. Baldisserri**, P. Galizia, V. Medri, E. Landi, C. Galassi, *Electrophoretic Deposition of aluminum Oxide Powders in Different Matrices for Alkali Bonded Coatings*, 69th Annual Meeting of the International Society of Electrochemistry (2018) (oral presentation, invited)
- C. Baldisserri**, A. L. Costa, *Electrochemical Characterization of Colloidal Suspensions*, Frontiers in Materials Characterisation towards Industrial Translation (FRIMACHAT) 2017, Limerick, EIRE (Invited Lecture)
- S. Failla, L. Zoli, **C. Baldisserri**, D. Sciti, *Electrophoretic deposition of ZrB₂ and SiC powders on woven carbon fibers for the processing of novel UHTCMCs*, 15th Conference & Exhibition of the European Ceramic Society / ECerS2017 (2017)
- C. Baldisserri**, M. Blosi, S. Ortelli, L. Viale, A. L. Costa, *Electrochemical Characterization of Suspensions of Oxidic Nanoparticle sin Biological Media*– NANOSAFE 2016, Grenoble, France (presentazione orale) (2016).
- S. Failla, **C. Baldisserri**, , A. L. Costa, A. Vinci, D. Sciti, *Electrophoretic deposition of ZrB₂ and SiC powders on woven carbon fibers for the processing of novel UHTCMCs*, Materials.it, Catania (2016).
- P. Galizia, IV Ciuchi , F. Albertini, F. Casoli, D. Gardini, **C. Baldisserri**, Carmen Galassi *Electrophoretic deposition of bilayer composite films based on CoFe₂O₄ and Nb-doped PZT* – NanotechItaly 2015 (Bologna, 2015)
- P. Galizia, I.V. Ciuchi, D. Gardini, **C. Baldisserri**, C. Galassi, ISTE-CNR, *Electrophoretic deposition of bilayer composite films based on CoFe₂O₄/TiO₂ and PZT*, Ceramics for Energy - CEn 2015 Faenza (2015).
- C. Galassi, C. Capiani, P. Galizia, **C. Baldisserri**, *Processing of (BaSr)Fe₁₂O₁₉ for antenna miniaturization*, 13th European Meeting on Ferroelectricity, Porto (PT) (2015).
- P. Galizia, **C. Baldisserri**, I.V. Ciuchi, C. Galassi, *Investigation of new magneto-dielectric titania-cobalt ferrite composites*, E-MRS 2014 Fall Meeting - Composite materials and structures: from research and practical demands to application (2014)
- P. Galizia, **C. Baldisserri**, I.V. Ciuchi, C. Galassi, *PZT film on silicon by electrophoretic deposition*, Electrophoretic Deposition: Fundamentals and Applications, Hernstein (Austria) (2014)
- P. Galizia, **C. Baldisserri**, C. Capiani, C. Galassi, *Structure analysis of cobalt ferrite/titania composite*, Electroceramics XIV, Bucarest (Romania) (2014)
- P. Galizia, **C. Baldisserri**, C. Galassi, *Thick composite magnetoelectric films produced by electrophoretic deposition*, Electrophoretic Deposition: Fundamentals and Applications, Hernstein (Austria) (2014).
- P. Galizia, **C. Baldisserri**, C. Galassi, *Thick dielectric films produced by electrophoretic deposition*, The tenths student Meeting SM-2013 Processing and Applications of Ceramics, Novi Sad (2013).
- C. Galassi, M. Cernea, **C. Baldisserri**, A.G. Ibanescu, S. Sandu, V. Kunser, C. Capiani, *Influence of the method of preparation and barium concentration on the properties of BaxSr_{1-x}Fe₁₂O₁₉ (x=0-0.35) ferrites*, International Symposium on Applications of Ferroelectrics European Conference on the Applications of Polar Dielectrics International Symposium Piezoresponse Force Microscopy and Nanoscale Phenomena in Polar Materials (ISAF ECAPD e PFM), Aveiro (PG) (2012).
- C. Baldisserri**, D. Gardini and C. Galassi, *Integration of Niobium-Doped Lead ZirconateTitanate on Bare Silicon Wafer by Electrophoretic Deposition (EPD)*, COST MPO904 Action "Single-and multiphase ferroics and multiferroics with restricted geometries" & IEEE-ROMSC 2012, Iasi (Romania) 2012.
- E. Gassama, **C. Baldisserri**, D. Calveti, C. Galassi, E. Somersalo, *Inverse Problem in Piezoelectricity*, 7. IMA Workshop: NSF PIRE Summer School for Graduate Students New frontiers in multiscale analysis and computing for materials, Minneapolis (USA) (2012).
- C. Baldisserri**, D. Gardini and C. Galassi, *EPD of Metal Oxide Nanoparticles from Polyol-Based Colloidal Suspensions*, 4th International Conference on Electrophoretic Deposition: Fundamental and Applications, (EPD 2011), Puerto Vallarta, Mexico (2011).

C. Galassi, F. Cordero, F. Craciun, F. Trequattrini, C. Capiani, **C. Baldisserri**, *Processing features and structural transformations in the ferroelectric perovskite $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3\text{-BaTiO}_3$* , Workshop COST Action MP904 in European Meeting on Ferroelectricity 2011, Bordeaux (F)(2011).

C. Baldisserri, D. Gardini and C. Galassi, *Electrostatic and kinetic aspects of the electrophoretic deposition of ceramic materials*, SHAPING 4 Conference, Madrid (E) (2009)

TECHNICAL REPORTS

D. Gardini, C. Molinari, *ER/GER FLUID PERFORMANCE (Work Part 4)*, RT-2020/001, Contract No. 2019/04-2019 (conversion of a standard HAACHE Mars III rheometer to a high-voltage electrorheological measurements system by designing, constructing and mounting: a) a virtually frictionless slide contacting device for the application of high voltages up to 4 kV; b) a combined low-voltage signal generator/high voltage amplifier high voltage output generator compatible with the system; c) an operator safety system designed to automatically bring the applied voltages less down to less than 10 V upon accidental opening of the electrical safety enclosure during measurements. A careful preliminary study of the earth grounding paths configuration of the whole assembly was carried out along with an evaluation of all electrical coupling issues (impedance matching, low voltage side/high voltage side electrical separation) to yield both optimum performance and absolute minimum electrical shock risk to the operator.

D. Gardini, C. Molinari, **C. Baldisserri**, *ER/GER FLUID SAMPLES (Work Part 3)*, Contract No. 2019/04-2019 (design, construction, mathematical analysis, testing and use of a novel large-area electrorheology detector employing a two-stacked-coils magnetic actuator/detector and a large plane vertical blade/double grounded plane assembly, fully described in the Report).

C. Galassi, *Fornitura di pasta serigrafica (g. 200) di materiale PZT drogato con Niobio, di composizione $\text{Pb}_{0.988}(\text{Zr}_{0.52}\text{Ti}_{0.48})_{0.976}\text{Nb}_{0.024}\text{O}_3$* , RT-2018/100 (as responsible for piezoelectric measurements) (2018).

C. Baldisserri, C. Galassi, E. Landi, V. Medri, *Realizzazione di Prototipi dei Supporti Ceramici di Specchi Piani Substrato Riflettente*, RT CO-2016-16 (2016)

Galassi, C; Galizia, P; Capiani, C; **Baldisserri, C**, *Compositi piezomagnetici ingegnerizzati per antenne miniaturizzate indossabili* Rapporto tecnico n. 7 (06/02/2014) all'interno del WP 3.0 – Characterization of materials, composite magnetodielectric materials and MW antennas, contract n. 1466 22/12/2011. Technological research for the construction of an ANTENNA technological demonstrator (2014).

C. Galassi, *Sviluppo di un manipolatore robotizzato per le fratture ossee ROBOMAN* RT-0000688 (as responsible for microstructural and functional characterizations) (2013)

C. Galassi, **C. Baldisserri**, *Il Laboratorio di Caratterizzazioni Elettriche CNR-ISTEC* (2013)

C. Baldisserri, C. Galassi, *Servizi di caratterizzazione elettrica e piezoelettrica di attuatori piezoelettrici*, RT-2013/04.

C. Baldisserri, C. Galassi, *Vernice Piezoelettrica* (2012)

C. Galassi, *Vernice piezomagnetica*, RT-0001501 (2012) (as responsible for electrical measurements and optical microscopy analyses).

INDUSTRIAL RESEARCH PROJECTS

E-CABIN (ended 2019). Personal involvement area: μW to mW piezoelectric energy harvesters to be employed as power supply in smart sensorized cabins in cruise ships (design, construction and characterization of a number of large-area piezoelectric cantilevers for optimal environmental acoustic vibration-to-electric energy transduction, to be used as independent power supplies for low-energy control circuitry in secluded or inaccessible environments sensing devices).

Ferro E.; Barsocchi P.; Mavilia F.; La Rosa D.; Delmastro F.; Di Martino F.; Distefano E.; Piscione P.; Bruno R.; Galassi C.; **Baldisserri C.**; Gardini D.; Passacantilli F.; Dessi D.; Ravazzani P.; Chimienti A.; Nerino R.; Pettiti G.; Piotto M.; Rampa V.; Savazzi S.; Strambini L.; Tognola G.; Zanella A.; Liberati D.; Fiocchi S.; Dossi L.; Tarable A.; Nordio A.; Nolic M.; Carciotti S.; Buqi R.; Camilotti L., *E-CABIN - Risultati sperimentali del prototipo in termini di quantità di dati raccolti, percentuale di funzionamento delle varie apparecchiature sensoristiche* (2018).

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SCHOOLS

First COST MP0904 Training School "Nanostructured oxides: from laboratory research to industrial applications", Genova, 2012.

STAGES

COST Action MP0904 Short Term Scientific Mission, Ecole Polytechnique Federale de Lausanne (EPFL), Ceramics Laboratory (2011).

GRANTS

IRCSET (Irish Research Council for Science and Technology) (three-year, 2004-2006)

MEMBERSHIPS

ISE-International Society of Electrochemistry: Active Member

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