

Europass Curriculum Vitae

Personal information



Surname / First name **Salerno Marco**
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Web of Science Researcher ID E-8309-2011
Bibliometric figures Google Scholar h-Index: 20 (including self-citations, since 2009: 17), Total citations: 2129. (WoS: h=17)
Nationality & gender Italian, male
Date of birth 23.02.1967

Working interests Fundamental and applicative research in Scanning Probe Microscopy, Materials Science, Nanocomposites, Porous materials, Nanofabrication of photonic devices and sensors, Nanotechnology and Biophysics in general.

Work experience

Dates February 2007 – present
Name and address of employer Italian Institute of Technology (IIT), Headquarter of Genova, via Morego 30, 16163 Bolzaneto, GE, Italy
Type of business or sector Research and education in Nanobiotechnology
Occupation or position held Research Technologist
Main activities and responsibilities Leading the Smart materials activity of the SPM Lab of the IIT Nanophysics Department. AFM and nanoindentation of polymer-oxide nanocrystal composite films and of patterned substrates for living cell cultures. Fabrication of anodic porous alumina and its application in SERS and MEMS sensors. Writing research project proposals (EU Cooperation, Bank Foundation calls, Bilateral Italy-foreign country calls). Experience as a President of a Tender Commission for acquisition of big instruments (1 M€ EBL system). Teaching modules for the PhD course of University of Genova on “Super-resolution Microscopy and Lithography” and on “Scientific writing”.

Dates February 2004 – January 2007
Name and address of employer National Nanotechnology Laboratory (NNL) of INFM-CNR (National Research Council), via per Arnesano 16, 73100 Lecce, Italy
Type of business or sector Research and education in nanotechnology
Occupation or position held Research Scientist
Main activities and responsibilities Responsible for the AFM Lab of the Plastic Photonics Division. Clean-room EBL fabrication of patterned Si and fused silica substrates for WOLEDs and DFB polymer lasers. Teaching modules for the Post-Graduation course of Superior School ISUFI on “Materials Science” and “Image Analysis and Processing”.

Dates September 2002 – January 2004
Name and address of employer nanoStructures and bioSystems at Surfaces (S³) laboratory of INFM-CNR, at the University of Modena and Reggio Emilia, via Campi 231, 41125 Modena, Italy.
Type of business or sector Research and education in Nanobiotechnology
Occupation or position held Post-doc / Research Assistant
Main activities and responsibilities AFM and EC-STM of biological macromolecules (metalloprotein Azurin). Fabrication of EC-STM tips. Photolithographic fabrication of interdigitated electrodes of Au on glass.

Dates November 1998 – April 1999
Name and address of employer various, (independent work at home)
Type of business or sector Website realization for educational institutes, public touristic agencies, and popular scientific editors
Occupation or position held Free-lance author. (e.g. <http://digilander.libero.it/citizens/>, about SPM).

Main activities and responsibilities	Editing and maintenance of the websites.
Dates	February 1997 – October 1998
Name and address of employer	National Pole of Bioelectronics – Scientific and Technological Park of Elba, via Roma 28, 57030 Marciana alta, Elba Island, Leghorn, Italy.
Type of business or sector	Research and development in Nanotechnology
Occupation or position held	Junior Researcher
Main activities and responsibilities	Responsible for the SPM Lab. Reporting for the Ministry of University and Research on the research line “Force sensors controlled by Neural Networks”.
Dates	August 1996 – January 1997
Name and address of employer	Infor, via Emilia Est 216/A, 43123 Parma
Type of business or sector	Software and hardware systems for the office.
Occupation or position held	Technician
Main activities and responsibilities	Installation, service and personalization of software for financial management.
Dates	May 1996 – July 1996
Name and address of employer	Softcat, La Spezia
Type of business or sector	Computer training and software application courses
Occupation or position held	Teacher
Main activities and responsibilities	Teaching alphabetization courses of DOS, Windows and Office to CARIGE bank employees.
Dates	February 1995 – April 1996
Name and address of employer	Verto Translations, via Ricciardi 6/C, 19124 La Spezia.
Type of business or sector	Translations and software localizations.
Occupation or position held	Employee.
Main activities and responsibilities	Translation of manuals, localization and beta-testing of software applications. Involved in a project dealing with processing of a database program by Computer Associates. Two weeks period of work at Opera Traduction in Paris.
Dates	February 1994 – January 1995
Name and address of employer	ARCI, La Spezia district, via XXIV maggio 351, La Spezia
Type of business or sector	Cultural and sport association.
Occupation or position held	Technician. Civilian service.
Main activities and responsibilities	Editor and printer of a monthly journal reporting and promoting the activity of club sites (“Arcipelago”). Foundation of the chess club and management of a chess course for beginners.

Education and training

Dates	March 1999 – May 2002
Title of qualification awarded	PhD in Physics
Principal subjects/occupational skills covered	Work developed in the frame of the TMR Project NanoSNOM, (meeting report presentations given in Ulm 1999, Paris 2000, Basel 2001, Madrid 2002). Thesis: "Near-Field Optics of Localized Surface Plasmons", supervisor Prof. Joachim Krenn. Setup of a PSTM-type SNOM, and the EBL fabrication of oblate and prolate gold nanodots, along with their imaging. FEM modeling of SNOM tuning-forks.
Name and type of organization providing education and training	Institut für Experimentalphysik of the Karl-Franzens Universität, Graz (Austria), (nanooptics.uni-graz.at).
Dates	July 2008
Title of qualification awarded	Training in “Principles of Fluorescence Techniques”
Principal subjects/occupational skills covered	Basic experience in fluorescence microscopy techniques.

Name and type of organization providing education and training	The Fluorescence Education Center, University of Genova, Department of Physics, (self-paid course).
Dates	April 2005
Title of qualification awarded	Post-graduation course "Tutorial on OLED devices"
Principal subjects/occupational skills covered	Fundamentals of OLED device principles and their fabrication.
Name and type of organization providing education and training	EU, Integrated Project OLLA management, 6th Framework Programme – IST. Pommersfelden, Germany.
Dates	September 2002
Title of qualification awarded	Training in "SPM applications in biology".
Principal subjects/occupational skills covered	Basic experience in AFM and EC-STM of biological samples (biomacromolecules, cells).
Name and type of organization providing education and training	Italian Society of Electron Microscopy (SIME) and University of Modena, Modena; (self-paid course)
Dates	April 1999
Title of qualification awarded	Post-graduation course "European School on Sensors for Food"
Principal subjects/occupational skills covered	Fundamentals of biosensors for food quality evaluation: working principles and data analysis.
Name and type of organization providing education and training	Technobiochip Consortium, Marciana Marina – Elba Island, Leghorn.
Dates	June 1996
Title of qualification awarded	Post-graduation course in "Geophysical Techniques of Marine Geology"
Principal subjects/occupational skills covered	Fundamentals of geophysics, undersea research, and maritime operations.
Name and type of organization providing education and training	Institute of Geophysics, University Consortium of La Spezia; (self-paid course).
Dates	1986 – 1993
Title of qualification awarded	M. Sc. (Laurea) degree in Physics.
Principal subjects/occupational skills covered	Setup, use and data processing and analysis of AFM/LFM (FFM) in air. Measurements of films of ceramics, superconductors, protein patterns. Thesis: "The measurement of friction in Scanning Force Microscopy", supervisors Prof. C. Ascoli, Prof. M. Allegrini. FEM modeling of AFM probes.
Name and type of organization providing education and training	University of Pisa, Institute of Biophysics of CNR.
Dates	1981 – 1985
Title of qualification awarded	Qualification degree from high school "Liceo".
Principal subjects/occupational skills covered	Basic education in all scientific disciplines.
Name and type of organization providing education and training	Liceo Scientifico "A. Pacinotti", La Spezia.

Personal skills and competences

Mother tongue(s) Italian

Other language(s) English, Spanish

Self-assessment

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	

English	Very good	Excellent	Very good	Excellent	Excellent
Spanish	Sufficient	Good	Sufficient	Sufficient	Sufficient

Social skills and competences Since my early work experience, thanks to the three years spent abroad during the PhD in the frame of an EU project, I am used to work in a modular context with precise responsibilities. I enjoy respecting the rules, both towards higher and lower level personnel. I believe that work of the individual is paramount, yet I am a team-oriented person with good coordination and leading skills. I am keen to communication and confrontation with partners at international level, and used to speaking to an audience and delivering the message in simple and clear way. I enjoy teaching and learning, and do not feel uncomfortable when being taught about fields that are not within my expertise. In fact, I think that in life both teaching and learning are among the most satisfactory situations for persons, since communication in that context is sincere and useful.

Organizational skills and competences Having taken part in large European projects (NanoSNOM during my PhD, OLLA during my work at>NNL-Lecce), I know well how project meetings and workshops are organized. I have also been involved in organization and logistics of IEEE Nano conference held in 2009 in Genova.

Technical skills and competences AFM, STM, SNOM, EC-STM, and SEM microscopy. EBL, optical (UV) and soft lithography. Clean-room environment. Image analysis and processing. Nanoindentation, DMA.

Computer skills and competences OS: Windows, Linux basics. Software packages: Office, Origin, SPIP. Programming: C++ basics, Igor, HTML, SQL basics.

Artistic skills and competences Interested in cinema and theatre as a spectator and a critic. I Enjoy visiting new 50-70 sites per year altogether among museums, churches, archaeological locations, city palaces and exhibitions.

Other skills and competences Tennis and table-tennis player, snorkeling, trekking.

Driving licence Italian standard licence (B). Using car and motorbike.

Memberships and awards

- IEEE (2010 membership);
- ACS for Polymeric base Materials Science (2010 membership);
- Who'sWho in Science and Engineering 2006-2007;
- SISM (Italia Microscopy Society, www.sism.unile.it) and EMS (European Microscopy Society, www.euremicsoc.org);
- ADI (Association of Italian PhD, www.dottorato.it, life membership);

Editorial experience

Referee for:

- IOP (Nanotechnology, J. Opt. A-Pure Appl. Opt., Meas. Sci. Technol., J. Micromech. Microeng., J. Phys. C-Condens. Mat., J. Phys. D-Appl. Phys.);
- APS (Phys. Rev. Lett., Phys. Rev. E, Phys. Rev. B);
- AIP (Appl. Phys. Lett.);
- Wiley & Sons (Microsc. Res. Tech.);
- ACS (Applied Materials & Interfaces).

Editorial Board memberships:

- MDPI open access journal 'Materials' (ISSN 1996-1944, IF \approx 1.9);
- PPHMJ journal 'International Journal of Materials Engineering and Technology' (ISSN 0975-0444, IF \approx 1.0);
- SCIRP journal 'Soft Nanoscience Letters' (ISSN 2160-0600, IF \approx 0.9).
- frontiers journal 'frontiers in Materials', (ISSN 2296-8016, started 2014), Corrosion Research section.
- AnnexPublishers journal 'Journal of Materials Science and Nanotechnology' (ISSN: 2348-9812, started 2013). Special Issue Editor on Anodization of valve metals, published August 2014: <http://www.annexpublishers.com/journals/journal-of-materials-science-and-nanotechnology/Oxide-nanostructures-from-anodization-of-valve-metals-and-other-surface-treatments.php>

Formation of human resources

- Supervisor of PhD Student Amirreza Shayganpour, 2014-ongoing, IIT Doctoral School in Bioengineering and Robotics, University of Genoa, Cycle no. XXIX; project title: "Functional constructs of nanostructured metal oxides for life-science applications".
- Supervisor of PhD student Sanjay Thorat, 2011-2014, IIT Doctoral School in Robotics, Neuroscience and Nanotechnology, University of Genoa, Cycle no. XXVI; Thesis title: "Characterization and development of novel dental restorative composites".
- Co-advisor of MSc student Marco Frezzato, Bioengineering Faculty, University of Genova, 2011-2012, Thesis title: "Valutazione morfologica in vitro mediante AFM di impianti dentali pre e post-inserimento con diverso trattamento superficiale".
- Co-advisor of MSc student Stefano Cresti, Bioengineering Faculty, University of Genova, 2011-2012, Thesis title: "Analisi al profilometro della microstruttura dell'interfaccia titanio-cemento-disilicato di litio in impianti dentali con corone CAD/CAM".
- Supervisor of PhD student Niranjana Patra, 2008-2010, IIT Doctoral School in Robotics, Neuroscience and Nanotechnology, University of Genoa, Italian Doctorate Cycle no. XXIII; Thesis: "Preparation and characterization of application oriented oxide nanostructures: titania nanocomposites and nanoporous alumina".
- Co-advisor of Bachelor Degree student Silvia Campa, 2010, Biomedical Engineering Faculty, University of Genoa; Thesis: "Analysis of biocompatibility of anodic porous alumina for tissue engineering applications" (in Italian).
- Co-advisor of MSc student Manuela Montinaro, 2005-2006, Physics Faculty, University of Lecce; Thesis: "Imprinting of 1D gratings on thermoplastic photoluminescent polymers" (in Italian).
- Co-advisor of MSc student Raffaele Pace, 1999, Physics Faculty, University of Catania (experimental work at Polo Nazionale Bioelettronica, Elba Island); Thesis: "Realization and testing of an AFM for use in high vacuum" (in Italian).

Teaching experience

- May-October 2014: course units of Scanning Probe Microscopy, Materials Characterization and Radiation Lithography, for the PhD students of IIT (University of Genoa).
- March 2012: 2 invited lessons of the Course of Biosensors and Microsystems (Prof. Raiteri) of the Engineering Faculty of Genoa University, on "Dental composites" and "Anodic porous alumina"; participation in the oral exam commission in May 2011.
- March 2011: 2 invited lessons of the Course of Biosensors and Microsystems (Prof. Raiteri), on "Scanning probe microscopy" and "Nanofabrication"; participation in the oral exam commission in June 2010.
- June-July 2010: teacher of PhD students course (XV Cycle) of the University of Genova at IIT on the topic "Scientific writing: internal reports, research articles, and project proposals".
- June-July 2008: teacher of PhD students course (XIV Cycle) of the University of Genova at IIT on the topic "Fabrication and imaging of nanostructures".
- May-September 2006: course "Material analysis and modification at microscopic scale" at Istituto Superiore Universitario di Formazione Interdisciplinare (ISUFI), Lecce;
- March 2002 - March 2003: seminars on STM-AFM-SNOM techniques, as a part of the course of Prof. P. Facci "Elements of Biophysics", University of Modena;
- October 2000 – July 2001: laboratory assistant of Physics I and Physics II at the University of Graz (Austria), Institute for Experimental Physics, course of Prof. J. Krenn.

Patents

- "Biosaggio e dispositivo per rivelare e/o quantificare la capacità di cellule neuronali di formare estensioni neuritiche e/o connettere altri neuroni", Italian patent request no. TO2012A000197; Inventors: Berdondini L., Dante S., Marconi E., Salerno M.; property: Fondazione IIT, submitted in 2012, pending, and extended to EU 7/3/13, priority IT/07.03.12/ITA TO20120197 "Process and device for the determination of alterations in neural connectivity and/or morphology"
- "Materiale composito comprendente allumina porosa anodica ed una matrice polimerica, e suo uso per il restauro dentale", Italian patent request no. MI2012A001634; Inventors: Salerno M., Thorat S., Diaspro A.; property: Fondazione IIT, submitted on 1/10/2012, pending, and extended to EU with request no. PCT/IB2013/058809, submitted on 24/9/2013.

Projects

Winner of an IIT Interdepartmental Grant (Department: nanophysics) for 2-years PostDoc assignment (selected PostDoc: Chiara Toccafondi), with Total Budget of 72 k€/yr, with title "APA-based active substrates for cell status assessment". Co-directed with Silvia Dante and Gobind Das, responsible for the other 2 IIT Departments (Neuroscience and Nanofabrication, respectively). The project will finish at the end of February, 2015.

Annexes

List of publications.