

CURRICULUM VITAE EUROPEAN FORMAT



PERSONAL INFORMATION

Name, Surname

Postal address

Telephone

E-mail

Website

Nationality

Place and Date of birth

Pasquale, ORGIANI

CNR-IOM TASC Laboratory – National Research Council

Area Science Park - Ed.Q2 Basovizza - s.s. 14 km 163.5 - 34149 Trieste - Italy

+39.040.375.8411 (office); +39.040.375.8075

pasquale.orgiani@spin.cnr.it

<https://sites.google.com/site/pasqualeorgiani/home>

Italian

WORK EXPERIENCE

02/2010 - today

Name and address of employer

Type of business or sector

Occupation or position held

Main activities and responsibilities

Staff Research Scientist

CNR - National Council for Research

Piazzale Aldo Moro 7 – 00185 – Roma – Italy

Public Research Institution

Staff Research Scientist (Ricercatore)

Thin film deposition and their physical/structural characterization

01/2007 - 01/2010

Name and address of employer

Type of business or sector

Occupation or position held

Main activities and responsibilities

Scientist

Coherentia CNR-INFM Research and Development Center

Via S.Allende – 84081 – Baronissi (SA) – Italy

Public Research Institution

Scientist (Ricercatore)

Thin film deposition and their physical/structural characterization

06/2005 - 12/2006

Name and address of employer

Type of business or sector

Occupation or position held

Main activities and responsibilities

Scientist

SuperMat CNR-INFM Regional Laboratory

Via S.Allende – 84081 – Baronissi (SA) – Italy

Public Research Institution

Scientist (Ricercatore)

Thin film deposition and their physical/structural characterization

01/2005 - 05/2005

Name and address of employer

Type of business or sector

Occupation or position held

Main activities and responsibilities

Post-doctoral fellowship

Coherentia CNR-INFM Research and Development Center

Via S.Allende – 84081 – Baronissi (SA) – Italy

Public Research Institution

Staff Research Scientist

Thin film deposition and their physical/structural characterization

2004

Name and address of employer

Type of business or sector

Post-doctoral fellowship

The Pennsylvania State University

104 Davey Lab - 16802 – State College (PA) – U.S.A.

Public State University

Occupation or position held
Main activities and responsibilities

Research associate
Thin film deposition and their physical/structural characterization

2002-2004

Name and address of employer

Post-doctoral fellowship
Coherentia INFM Research and Development Center
Via Cintia – 80126 – Napoli – Italy.

Type of business or sector
Occupation or position held
Main activities and responsibilities

Public Research Institution
Research associate
Thin film deposition and their physical/structural characterization

EDUCATION AND TRAINING

2002

Name and address of employer

Ph.D. in Micro-system Engineering
University of Roma Tor Vergata
Viale del Politecnico – 00133 – Roma – Italy
Thin film deposition and their physical/structural characterization

Principal subjects / occupational skills covered

Title of qualification awarded

Doctor of Philosophy

1999

Name and address of employer

“Laurea” degree in Physics
University of Napoli
Mostra d’oltremare pad.20 – 80125 – Napoli – Italy
Thin film deposition and their physical/structural characterization

Principal subjects / occupational skills covered

Title of qualification awarded

Laurea 110/110 "cum laude" (full marks and honors)

HABILITATION

Name and address of employer
Title of qualification awarded

2014 - Italian Ministry for Education, University and Research
Italian National Habilitation for the role of University's Associate Professor
Mark: Excellent - Subject Area 02/B1 – Experimental Physics of the Matter

LANGUAGES

Italian
English

Mother-tongue
Highly proficient in both spoken and written English
(Common European Framework of Reference C1)

RESEARCH ACTIVITIES

Research sectors

Solid state physics - Experimental

Recent Scientific Activities.

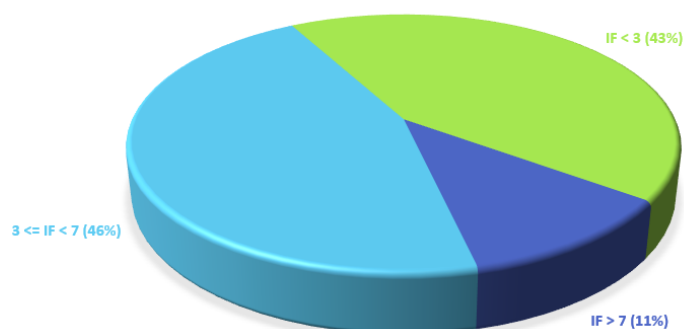
Dr.Orgiani is staff scientist at CNR-SPIN institute presently working at CNR-IOM institute in Trieste. The main activity is the deposition of thin films and heterostructures by Pulsed Laser Deposition (PLD) and Molecular Beam Epitaxy (MBE) and the investigation of their structural and electronic properties. He masters the structural and stoichiometric characterizations of thin films and heterostructures by X-ray diffraction, Scanning Electron Microscopy and Energy Diffraction x-ray Spectroscopy. In the last years a strong activity on electronic investigation of thin films and heterostructures (mainly perovskite oxides) has been carried out by Dr.Orgiani at several Synchrotron Radiation Facilities. In particular, he has been appointed in charge of the thin film deposition laboratory directly connected to a synchrotron beamline dedicated to surface science (i.e. ARPES, XPS and XAS) at CNR-IOM's beamline APE at ELETTRA synchrotron. His research activity is focused on the role of structural properties (mainly strain induced on the thin films by different substrates during the epitaxial growth) on their electronic properties (e.g. metal-insulator transition, quantum interference effects at low temperatures, surface states).

Statistics

Dr.Orgiani is co-authors of more than 100 publications (25 as first/corresponding author) on international referee journals;

SOURCE SCOPUS - 2022, MAR 22TH

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| RESULTS FOUND: | ● | 115 |
| SUM OF THE CITED: | ● | 1451 |
| CITING ARTICLES: | ● | 1079 |
| AVERAGE CITATIONS PER ITEM: | ● | 12.62 |
| AVERAGE IF: | ● | 3.66 |
| H-INDEX: | ● | 24 |



Selected Articles

- Tuning the optical absorption of anatase thin films across the visible-to-near-infrared spectral region
P.Orgiani et al., Physical Review Applied 13, 044011 (2020).
- Role of Oxygen Deposition Pressure in the Formation of Ti Defect States in TiO₂ (001) Anatase Thin Films
B.Gobaut, P.Orgiani et al., ACS Appl. Mater. Interfaces 9, 23099 (2017).
- Structural and electronic properties of Bi₂Se₃ topological insulator thin films grown by pulsed laser deposition
P.Orgiani et al., Appl. Phys. Lett. 110, 171601 (2017).
- Evidence of direct correlation between out-of-plane lattice parameter and metal-insulator transition temperature in oxygen-depleted manganite thin films
P.Orgiani et al., Appl. Phys. Lett. 100, 042404 (2012).
- Physical properties of La_{0.7}Ba_{0.3}MnO_{3-d} complex oxide thin films grown by Pulsed Laser Deposition technique
P.Orgiani et al., Appl. Phys. Lett. 96, 032501 (2010).
- Enhanced transport properties in La_xMnO_{3-x} thin films epitaxially grown on SrTiO₃ substrates: the profound impact of the oxygen content
P.Orgiani et al., Appl. Phys. Lett. 95, 013510 (2009).
- Direct measurement of sheet resistance R_{\square} in cuprate systems: Evidence of a fermionic scenario in a metal-insulator transition
P.Orgiani et al., Physical Review Letters 98, 36401 (2007).

Publications on high impact factor journal (IF > 7)

- 1 Advanced Science
- 1 Nature Communication
- 2 Nanoletters
- 5 ACS Applied Materials & Interface
- 3 Physical Review Letters
- 1 Advanced Electronic Materials

Talk at International Conferences
(invited only)

- Synthesis and advanced characterization of quantum materials by synchrotron techniques – An all-in-situ open-access platform, MRS Spring Meeting: Symposium Harnessing functional defects in energy and electronic materials, Honolulu (USA), 2022.
- Thin-film technology for tailoring quantum devices: the case of anatase TiO₂, National Conference on Functional Materials: Synthesis, Properties and Applications, Aligarh (India), 2022.
- Probing and controlling the electronic properties of anatase TiO₂ thin films: from bulk electronic states to surface 2DEG, 9th International Conference on Electroceramics, Lausanne (Switzerland), 2019.
- Pulsed Laser Deposition enabling Direct-ARPES experiments on thin films and heterostructures, Workshop on Technologically relevant quantum materials, Trieste (Italy), 2016.
- Coexistence of high metallicity and orbital order in A-site manganites XI International Conference of Nanostructured Materials, Rhodes (Greece), 2012.
- Mn²⁺-doping as novel approach for manganite compounds: new scenario for hopping mechanisms in strongly correlated electrons systems Emerging Trends in Advanced Correlated Materials, Capri (Italy), 2010.
- Enhanced transport properties in La_xMnO_{3-d} thin films grown on SrTiO₃ substrates SPIE Photonic West – Oxide Based Materials and Devices, San Francisco (USA), 2010.
- MgB₂ films, fibers and heterostructures grown by an innovative Hybrid Physical Chemical Vapor Deposition technique CIMTEC 2006 - "4th Forum on New Materials", Acireale (Italy), 2006.

Professional Skills

- Deposition of thin films, fibers and heterostructures by pure Physical Vapor Depositions techniques (namely sputtering, laser photodeposition, evaporation, LaserMBE) and hybrid Chemical Physical Vapor Deposition; thin film growth process in-situ analysis techniques (RHEED).
- Structural and stoichiometric characterization of thin films and heterostructures by X-ray diffraction (XRD), Scanning Electron Microscopy (SEM) and Energy Dispersive X-ray Spectroscopy (EDXS) analysis.
- Transport characterization of thin films (standard four probe, inductive contactless and microwave methods). Transport properties of superconducting and ferromagnetic
- Advanced electronic characterization by X-ray photoemission spectroscopy (XPS) and X-ray absorption spectroscopy (XAS)

ADDITIONAL INFORMATION

Financed projects
as Principal Investigator

- 2007 - Legge Regionale V Campania
Title of the project: Superconductivity in Nano-systems: macroscopic quantistic effects in nanostructured superconductive devices (Superconduttività in Nano-Sistemi: Effetti quantistici macroscopici in dispositivi superconduttivi nanostrutturati)
- 2008 – Seed Projects INFM call for Young Researcher
Title of the project: Superconductivity in Nano-systems – Quantum effects in superconducting nano-structured devices

Financed projects
at Large Scale Facilities
as Principal Investigator

- 2009 – European Synchrotron Radiation Facility – Experiment HE-3123
Title: Orbital and magnetic order in strained LaMnO₃ thin films
- 2010 – European Synchrotron Radiation Facility – Experiment HE-3411
Title: The crucial role of Mn²⁺ ions in lanthanum-deficient La_xMnO₃ thin films studied by Mn L₃ edge RIXS
- 2011 – European Synchrotron Radiation Facility – Experiment HE-3544
Title: The crucial role of Mn²⁺ ions in lanthanum-deficient La_xMnO₃ thin films studied by Mn L₃ edge RIXS
- 2013 - ELETTRA Synchrotron – Experiment 20130206
Title: Electronic properties of near-surface and bulk electron-doped cuprates investigated by polarization dependent X-ray Absorption Spectroscopy
- 2013 - ELETTRA Synchrotron – Experiment 20140396
Title: Electronic properties of optimally oxygenated and oxygen-deficient TiO₂ anatase thin films by X-ray Absorption and Photo-Emission Spectroscopies
- 2014 - ELETTRA Synchrotron – Experiment: 20145074
Title: Nichelates thin films and heterostructure investigated by X-ray Absorption Spectroscopy
- 2015 - ELETTRA Synchrotron – Experiment 20155381
Title: Optical spectroscopy investigation of the competing electronic phases in ultra-thin LaNiO₃ films
- 2015 – Soleil Synchrotron – Experiment 20141023
Title: Understanding the electronic structure of Titanium dioxide Ti_nO_{2n-x} Magneli phase
- 2017 - ELETTRA Synchrotron – Experiment 20175340
Title: Evolution of bulk anatase TiO₂ defect states as a function of the oxygen content and its correlation with the free electrons Drude term
- 2017 – Diamond Light Source – Experiment SI-16041
Title: Origin, dimensionality and evolution of electron gas at surface of TiO₂ anatase thin films
- 2018 – Soleil Synchrotron – Experiment 20171394
Title: Unrevealing d⁰ magnetism in anatase TiO_{2-x} epitaxial thin films

Participation to
National/International projects

- 2012 - FIRB Project – grant agreement RBAP115AYN
“Ossidi nanostrutturati: multi-funzionalità e applicazioni”
- 2011 - PRIN Project - grant agreement 20094W2LA
"Ordine orbitale e di spin nelle eterostrutture di cuprati e manganiti"
- 2011 - FP7 European Project GABRIEL - grant agreement n.284884
“Integrated ground and on-board system for support of the aircraft safe take-off and landing”
- 2011 - FP7 European Project IRONSEA - grant agreement n.283141
“Establishing the basic science and technology for iron-based superconducting electronics applications”
- 2010 - FP7 European Project MAMA - grant agreement n.264098
“Unlocking research potential for multifunctional advanced materials and nanoscale phenomena”
- 2017- NFFA European Project NFFA-EU - grant agreement n. 654360
“Nanoscience Foundries and Fine Analysis” – EUROPE –

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| Financed projects for International mobility of researchers | <ul style="list-style-type: none"> • 2007 European Science Foundation project THIOX Exchange Visit grant - Chalmers University of Technology, Sweden • 2005 - Consiglio Nazionale per le Ricerche (National Council for Research) Short Mobility Term fellowship - The Pennsylvania State University, USA • 2004 - Consiglio Nazionale per le Ricerche (National Council for Research) – Madess Project Scientific stage at foreign institutions – The Pennsylvania State University, USA • 2004 - University of Napoli "Federico II" Fellowship for scientific visit at foreign institutions – The Pennsylvania State University, USA • 2003 - Foundation "Angelo Della Riccia" Fellowship for scientific visit at foreign institutions - Argonne National Laboratory, USA . |
| Scientific/Managerial appointments | <ul style="list-style-type: none"> • 2015 - today ; Head of DIGIMAT laboratory at APE-NFFA Laboratory (Trieste) • 2010-2015 ; Manager of "Modulo – Proprietà fondamentali di materiali funzionali e applicazioni per l'energetica" (Fundamental properties of functional materials and applications for Energetics) - CNR-SPIN Institute. • 2010-2014 ; Scientist in charge of MBE/PLD laboratory - CNR-SPIN Institute (Salerno) • 2010-2014 ; Scientist in charge of Transport Properties laboratory – CNR-SPIN Institute (Salerno) • 2010-2012 ; Local attaché for regarding Safety procedures and duties – CNR-SPIN Institute (Salerno) |
| Appointments as scientific evaluators | <ul style="list-style-type: none"> • Chairman of the CNR Panel for Advanced Materials for the “Fondo per la Crescita Sostenibile” call of the “Ministero dello Sviluppo Economico” • External referee of the European Commission for FET-OPEN RIA calls • External referee of the Deutsche Forschungsgemeinschaft (German Research Foundation) for bilateral Germany-India joint research projects • External referee of the Committee for Physical Sciences of the Czech Science Foundation for projects regarding building of large-scale research center. • External referee of the CNR for “Fondo per la Crescita Sostenibile” of the “Ministero dello Sviluppo Economico” (Panel Advanced Materials). |
| Scientific appointments | <ul style="list-style-type: none"> • Member of the Organizing Committee - 1st National Congress on "Functional Oxide for Electronics", 2008. • Member of the Organizing Committee - 15th National Congress of the Italian Society of Synchrotron Light, 2006. • Chair of the session "Growth and Properties of Multifunctional Oxides" - International Congress SPIE Photonic West – Oxide based Materials and Devices, 2010. |
| Editorial appointments | <ul style="list-style-type: none"> • Member of the Editorial Board of “Coating” – MDPI publisher (IF 2.436, ISSN 2079-6412), 2020 - today. • Member of the Editorial Board of “The Scientific World Journal” - Hindawi publisher, 2010-2012. • Referee for American Physical Society (i.e. PRL, PRB, PR Materials), American Institute of Physics (e.g. APL, JAP), Institute of Physics (e.g. New Journal of Physics, Europhysics Letters, SuST), Springer (e.g. Appl Phys A, J. Mat. Sc., JMMM), Elsevier (e.g. Appl. Surf. Sc., Mat. Sc. Eng. B) and others |

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| Tutoring of students | <ul style="list-style-type: none"> • 2016 - External co-tutor of Laurea thesis - Dr. Chiara Bigi (University of Milano); Title: Complete photo-emission experiment for probing spin texture at surfaces • 2017 - External co-tutor of Laurea thesis - Dr. Bianca Maria Berti (University of Milano); Title: Structural and spectroscopic characterization of epitaxially strained SrTiO₃ ultra-thin films • 2018 - External co-tutor of Laurea thesis - Dr. Alessandro Troglia (University of Milano); Title: Layer-by-layer growth of TiO₂- anatase: evolution 2D/3D of the electron states • 2018 - External co-tutor of Laurea thesis - Dr. Andrea Nardi (University of Milano); Growth and Fine Analysis of a conductive oxide perovskitic SrRuO₃ |
| Dissemination | <ul style="list-style-type: none"> • Webinar "Designing advanced sensor materials at the Nanoscale" Italian Embassy in Berlin and the International Relations Office of CNR https://ambberlino.esteri.it/ambasciata_berlino/it/ambasciata/news/dall-ambasciata/2022/02/16-02-2022-10-00-am-webinar-designing.html (YouTube) https://www.youtube.com/watch?v=cl2wRlxwo5s • Lecture on Laser Deposition: growth of perovskite thin film and heterostructures (YouTube) https://www.youtube.com/watch?v=XFKOngXOIDU • Interview on Consiglio Nazionale delle Ricerche WebTV NFFA-trieste demonstrator: quando la ricerca apre le porte all'utenza scientifica europea di nanoscienze (from 03':32" to 05':35") https://www.cnrweb.tv/nffa-trieste-demonstrator-quando-la-ricerca-apre-le-porte-allutenza-scientifica-europea-di-nanoscienze/ |