Curriculum Vitae

Personal information

Name and Surname	Federico Olivieri
Address	Via Adolfo Omodeo, 104, Naples
Telephone	+393479956094
Nationality	Italian
Email	federico.olivieri.89@gmail.com
PEC	federico-olivieri@pec.it
ORCID ID	http://orcid.org/0000-0002-1424-1257
SCOPUS ID	57188994439
Google scholar	https://scholar.google.it/citations?user=erwKBvEAAAAJ&hl=it&oi=ao
ResearcherID	P-8863-2018
Researchgate	https://www.researchgate.net/profile/Federico_Olivieri2

Education and training

Date	1 November 2014 – 31 October 2017
Title of qualification awarded	**PhD**
Doctoral designation	Industrial Products and Process Engineering
Doctoral thesis	Manipulation of polymeric fluids through pyro-electro-hydro-dynamics Tutor: Prof. Giuseppe Mensitieri, Prof. Andrea D'Anna, Dr. Pietro Ferraro
Date of award of the title	15/01/2018
Main themes	Study of pyroelectric fields, in order to manipulate and process fluids in 2D and 3D. Preparation and characterization of the materials used and the products made. Realization of optical devices and biomedical interest. Optical and interferometric lithography.
Name and type of organisation providing education and training	University of Naples Federico II - Department of Chemical Engineering, Materials and Industrial Production Piazzale Tecchio, 80, 80125 Naples, Italy
Level in national or international classification	Ph.D. / Doctor of Philosophy (Ph.D.)
Date	2012 – 2014
Title of qualification awarded	**Doctor of Materials Engineering** (Class of Master's Degrees in Materials Engineering, Class DM 270/04 LM-53)

Graduation thesis	Development of amorphous silicon intrinsic oxide film for thin-film solar cells. Experimental thesis, developed in collaboration with the National Agency for Alternative Energies (ENEA) Supervisor: Prof. Domenico Ninno Co-tutor: Dr. Paola Delli Veneri
Graduation grade	110/110 cum laude
Date of award of the title	23/07/2014
Main themes	Properties of metallic, ceramic, polymeric and composite materials. Chemistry, physics and relationships with the structure of materials. Study of thermodynamics and technologies of preparation and process of materials. Mathematical methods applied to engineering.
Name and type of organisation providing education and training	University of Naples Federico II - Department of Chemical Engineering, Materials and Industrial Production Piazzale Tecchio, 80, 80125 Naples, Italy
Level in national or international classification	Master's degree
Date	2014
Type of training activity	**Internship for the master's thesis**
Main themes	Study and preparation of amorphous silicon oxide film for Plasma Enhanced Chemical Vapour Deposition (PECVD), optical and electrical characterization and photovoltaic devices made.
Name and type of organisation providing education and training	University of Naples Federico II - Department of Chemical Engineering, Materials and Industrial Production (DiCMaPI) National Agency for Alternative Energies (ENEA)
Type of activity or sector	University / Research Institution
Date	2007 – 2011
Title of qualification awarded	**Doctor of Materials Science and Engineering** (Class of Degrees in Industrial Engineering N.10)
Graduation thesis	Preparation and characterization of PBT/alumina nanocomposites: effect of functionalization on dielectric properties and morphological aspects. Experimental thesis Supervisor: Prof. Giuseppe Mensitieri Co-rapporteur: Pietro Russo
Graduation grade	96/110
Date of award of the title	23/03/2012
Main themes	Basics of mathematics, physics, thermodynamics and chemistry. In-depth analysis of issues related to materials. Techniques of preparation and process of materials and characterization of the same. Electrical engineering, construction sciences, transport phenomena.

Name and type of organisation providing education and training	University of Naples Federico II - Department of Chemical Engineering, Materials and Industrial Production Piazzale Tecchio, 80, 80125 Naples, Italy
Level in national or international classification	Bachelor degree
Date	2009 – 2010
Type of training activity	**Internship aimed at the three-year thesis**
Main themes	Mixing and production of PBT matrix composites, reinforced with alumina. Morphological and dielectric characterization (SEM) of the samples made.
Name and type of organisation providing education and training	University of Naples Federico II - Department of Chemical Engineering, Materials and Industrial Production
Type of activity or sector	University
Date	2002-2007
Instruction	Scientific High School Leon Battista Alberti, Naples
Qualification obtained	**Scientific High School Diploma**
Vote	90/100

Professional experience

Date	04 September 2021 – in progress
Position held	**Research Fellow**
Research project	ENEL-POC for the experimentation of recycling processes of fiberglass composite materials from wind turbines at the end of their life
Main activities and responsibilities	Planning and execution of research activities within the following topics: - Grinding of polymeric residues and composites - Mixing and recycling of organic fractions - Mechanical characterization on recycled samples (tensile tests, compression, dynamo-mechanical, impact, fatigue)
Name of the employer	Institute for Polymers, Composites and Biomaterials (IPCB) – CNR
Type of activity or sector	Research institution
Protocol number	IPCB Protocol No. 1898 of 02/09/2021

Date	02 September 2020 – 01 September 2021
Position held	**Research Fellow**
Research project	New smart and sustainable multi-sector fabrics for creative design and made-in-Italy style (TEX-STYLE)
Main activities and responsibilities	Planning and execution of research activities within the following topics: - Realization of functional coatings based on reduced graphene oxide and polyurethane dispersion on fabrics - Mechanical and electrical characterization on tissue samples - Study of the variation of the piezoelectric characteristics of the fabrics as a function of temperature and humidity

Name of the employer	Institute for Polymers, Composites and Biomaterials (IPCB) – CNR
Type of activity or sector	Research institution
Protocol number	IPCB Protocol no. 1392 of 04/08/2020
Date	02 September 2019 – 01 September 2020
Position held	**Research Post-Doc Fellow**
Research project	Innovative materials and techniques for the conservation of the 20th century concrete-based cultural heritage (INNOVACONCRETE)
Main activities and responsibilities	Planning and execution of research activities within the following topics: - Synthesis of nanostructured systems related to corrosion prevention in the field of cultural heritage - Methods of loading anticorrosive agents into nanometric inorganic reservoirs - Functionalization of mesoporous silica particles - Thermal and spectroscopic characterizations of the devices made
Name of the employer	Institute for Polymers, Composites and Biomaterials (IPCB) – CNR
Type of activity or sector	Research institution
Protocol number	IPCB Protocol No. 1437 of 30/07/2019
Date	08 January 2018 – 07 January 2019
Position held	**Research Fellow**
Research project	Innovative Integrated Industrial Ventilation System in Composite Materials (VINMAC)
Main activities and responsibilities	Planning and execution of research activities within the following topics: - Study of solutions related to innovative systems in the field of industrial ventilation, concerning the use of composite materials - Modeling and prototyping using 3D printing technology - Preparation of polymer composites useful for printing tests - Development of biomedical-oriented products (prostheses, orthoses) - Preparation of natural composites from animal proteins - Mechanical, thermal, rheological and electrical characterizations
Name of the employer	Institute for Polymers, Composites and Biomaterials (IPCB) – CNR
Type of activity or sector	Research institution
Protocol number	IPCB Protocol no. 28 of 05/01/2018
Date	01 November 2014 – 31 October 2017
Position held	**PhD student in Industrial Products and Process Engineering**
Main activities and responsibilities	Planning and execution of research activities within the following topics: - Exploitation of pyroelectric fields for fluid manipulation for electro-hydro-dynamic effect - 2D printing via innovative ink-jet printing - Realization of optical devices and structures of biomedical interest - Optical and geometric characterizations - Optical and interferometric lithography
Name of the employer	Institute of Applied Sciences and Intelligent Systems (ISASI) - CNR

Type of activity or sector	Research institution
Date	2012-2013
Type of use	Owner of the design and interior design studio
Main activities and responsibilities	Interior design and purchasing management

Research activities

Dr. Olivieri's research activity was mainly focused on the following topics:

- Separation of waste polymeric materials by spectroscopic and calorimetric characterization;
- Development and piezoelectric characterization of graphene-based functional coatings on cotton fabrics for the creation of intelligent fabrics with sensory properties;
- Development of hydrophobicizing treatments on tuff artifacts for cultural heritage applications;
- Design and development of nanostructured films for applications such as humidity sensors;
- Design and development of polymer matrix nanocomposite coatings containing intelligent nanoparticles with controlled release of active agents for the protection of metal substrates from corrosion and for the protection of stone substrates from biological aging;
- Synthesis of mesoporous silica nanoparticles as nanocarriers for anticorrosive and antifouling agents;
- Modeling and design of components for biomedical use in the field of FDM and SLS 3D molding;
- Dispensing and printing of drops of polymeric solutions created by the instability generated by the application of pyroelectric fields and realization of devices applicable in the biomedical field;
- Preparation and optimization of polymer solutions for biomedical purposes or ink function for ink-jet printers;
- Study of pyroelectric fields in order to manipulate fluids/or nanoparticles stimulated by electrophoretic or dielectrophoretic effect in space.

As part of the research activities summarized above, Dr. Olivieri has acquired specific skills in the following methods and techniques:

- 3D printing with FDM and SLS;
- Processing of polymers for mixing from melt and extrusion with wire and flat head;
- FT-IR spectroscopy;
- UV spectroscopy;
- Differential scanning calorimetry and thermogravimetry;
- Scanning and transmission electron microscopy;
- Optical and fluorescence microscopy;
- Spectral response analysis;
- Rheological analysis;
- Dynamic-mechanical analysis;
- Mechanical traction and compression characterization;
- Electrical characterization;

- Analysis of the hydrophobicity/hydrophilicity of the surfaces by contact angle;
- Optical and interferometric lithography;
- Profilometry and AFM;
- X-ray diffraction analysis (SAXS and WAXS);
- Analysis of surface area and porosity by nitrogen adsorption;
- Adsorption analysis of volatile organic pollutants (VOCs).

Dr. Olivieri has contributed to the writing of several national and international research projects (PRIN, MISE, PON, HORIZON2020) and to the drafting of reports, deliverables and project SALs.

Dr. Olivieri is co-author of 11 publications in international scientific journals indexed by ISI and Scopus and 13 google-indexed publications.
Below is a list of citations and H-index updated to 15/06/2022:

	Quotes	**Index H**
Google Scholar	211	7
Scopus	181	7

- ***Scientific publications in ISI journals***

1. Hierarchical micro-to-macroporous silica nanoparticles obtained by their grafting with hyper-crosslinked resin.
   M. Guerritore*, F. Olivieri*****, R. Avolio, R. Castaldo, M. Cocca, M. E. Errico, M. Lavorgna, B. Silvestri, V. Ambrogi, G. Gentile
   * first shared name
   Microporous and Mesoporous Materials (2022) 335, 111864; doi: 10.1016/j.micromeso.2022.111864 ISSN: 1387-1881.
   Impact Factor magazine: 4,941
   Google Scholar Quotes: 0
   Scopus Quotes: 0

2. Recyclable-by-design mono-material flexible packaging with high barrier properties realized through graphene hybrid coatings.
   M. Guerritore, F. Olivieri, R. Castaldo, R. Avolio, M. Cocca, M. E. Errico, M. R. Galdi, C. Carfagna, G. Gentile
   Resources, Conservation and Recycling (2022) 179, 106126;
   doi: 10.1016/j.resconrec.2021.106126 ISSN: 1879-0658
   Impact Factor magazine: 10,204
   Google Scholar Quotes: 1
   Scopus Quotes: 1

3. Mesoporous silica nanoparticles as carriers of active agents for smart anticorrosion organic coatings. A critical review.
   F. Olivieri, R. Castaldo, M. Cocca, G. Gentile, M. Lavorgna
   Nanoscale (2021) 13, 9091-9111; doi: 10.1039/D1NR01899J ISSN: 2040-3372.
   Impact Factor magazine: 7,790
   Google Scholar Citations: 14
   Scopus Quotes: 11

4. Innovative Silver-Based Capping System for Mesoporous Silica Nanocarriers Able to Exploit a Twofold Anticorrosive Mechanism in Composite Polymer Coatings: Tailoring Benzotriazole Release and Capturing Chloride Ions.
F. Olivieri, R. Castaldo, M. Cocca, G. Gentile, M. Lavorgna
ACS Applied Materials & Interfaces (2021) 13, 40, 48141-48152; doi: 10.1021/acsami.1c15231 ISSN: 1944-8244
Impact factor magazine: 9,229
Google Scholar Quotes: 1
Scopus Quotes: 1

5. Easy Printing of High Viscous Microdots by Spontaneous Breakup of Thin Fibers.
L. Mecozzi, O. Gennari, S. Coppola, F. Olivieri, R. Rega, B. Mandracchia, V. Vespini, A. Bramanti, P. Ferraro, S. Grilli
ACS Applied Materials & Interfaces (2018) 10, 2, 2122-2129; doi: 10.1021/acsami.7b17358 ISSN: 1944-8244.
Impact Factor magazine: 9,229
Google Scholar Quotes: 21
Scopus Quotes: 17

6. On the Complex and Reversible Pathways of CdSe Quantum Dots Driven by Pyroelectric-Dielectrophoresis.
G. Nasti, S. Coppola, F. Olivieri, V. Vespini, V. Pagliarulo, P. Ferraro
Langmuir (2018) 24, 5, 2198-2204; doi: 10.1021/acs.langmuir.7b04073 ISSN: 0743-7463.
Impact factor revised: 3,882
Google Scholar Quotes: 7
Scopus Quotes: 7

7. Pyro-EHD 3D printing at microscale.
S. Coppola, G. Nasti, V. Vespini, V. Pagliarulo, S. Grilli, P. Ferraro, F. Olivieri
Conference: 2017 IEEE 3rd International Forum on Research and Technologies for Society and Industry - Innovation to Shape the Future for Society and Industry (RTSI), DOI: 10.1109/RTSI.2017.8065930 ISBN: 978-1-5386-3906-1.
Google Scholar Quotes: 0
Scopus Quotes: 0

8. Endowing a plain fluidic chip with micro-optics: a holographic microscope slide.
V. Bianco, B. Mandracchia, V. Marchesano, V. Pagliarulo, F. Olivieri, S. Coppola, M. Paturzo, P. Ferraro
Light Science & Applications (2017) 6, e17055; doi:10.1038/lsa.2017.55 ISSN: 2047-7538.
Impact factor magazine: 17,782
Google Scholar Quotes: 91
Scopus Quotes: 78

9. Direct Writing of Microfluidic Footpaths by Pyro-EHD Printing.
S. Coppola, G. Nasti, M. Todino, F. Olivieri, V. Vespini, P. Ferraro
ACS Applied Materials & Interfaces 9(19) (2017) DOI: 10.1021/acsami.7b02633 ISSN: 1944-8244.
Impact factor magazine: 9,229
Google Scholar Citations: 42
Scopus Quotes: 35

10. Direct fabrication of polymer micro-lens array.
    S. Coppola, V. Pagliarulo, V. Vespini, G. Nasti, F. Olivieri, S. Grilli, P. Ferraro
    Conference SPIE Optical Metrology (2017) DOI: 10.1117/12.2272552 ISBN: 978-1-5106-1104-7; 978-1-5106-1103-0, ISSN: 0277-786X.
    Google Scholar Quotes: 5
    Scopus Quotes: 2

11. Pyro-EHD ink-jet printing for direct functionalization of 3D lab-on-chip devices.
    S. Coppola, V. Vespini, V. Bianco, L. Mecozzi, F. Olivieri, M. Todino, M. Paturzo, S. Grilli, P. Ferraro
    Conference Proc. SPIE 9705, Microfluidics, BioMEMS, and Medical Microsystems XIV (2016) DOI: 10.1117/12.2216682 ISBN: 978-1-62841-939-9, ISSN: 1605-7422.
    Google Scholar Quotes: 3
    Scopus Quotes: 3

12. Direct self-assembling and patterning of semiconductor quantum dots on transferable elastomer layer.
    S. Coppola, V. Vespini, F. Olivieri, G. Nasti, M. Todino, B. Mandracchia, V. Pagliarulo, P. Ferraro
    Applied Surface Science 399 (2016) DOI: 10.1016/j.apsusc.2016.12.071 ISSN: 0169-4332.
    Impact factor magazine: 6,707
    Google Scholar Quotes: 12
    Scopus Quotes: 11

13. Fabrication of polymer lenses and microlens array for lab-on-a-chip devices
    F. Olivieri, M. Todino, S. Coppola, V. Vespini, V. Pagliarulo, S. Grilli, P. Ferraro
    Optical Engineering 55 (8) 081319-16 (2016) doi: 10.1117/1.OE.55.8.081319 ISSN: 0091-3286.
    Impact factor magazine: 1.084
    Google Scholar Quotes: 13
    Scopus Quotes: 11

Doctoral thesis:

Manipulation of polymeric fluids through pyro-electro-hydro-dynamics
F. Olivieri, 2018
on Google Scholar
Quotes: 0

Book chapter:

Additive manufacturing for biodegradable polymers
F. Olivieri, C. De Capitani, A. Sorrentino, 2020
Sustainability of polymeric materials. De Gruyter ed.
235-252.
on Google Scholar
Quotes: 1

- ***Prizes and awards***

1. Grant awarded by the Board of Directors of COST Action IC1208 for participation in the conference "1st school of Photonics on Photonic Integration: Advanced materials, new technologies and applications"
   September 2016, reference COST-TS-ECOST-TRAINING_SCHOOL-IC1208-260916-077490

2. Start-up selection for access to the business acceleration program "Aerospace Tech Challenge", promoted by the Aerospace District of Campania and CNR-ISASI.
   Città della Scienza, Naples, 13/09-28/10/2016

- ***Participation in national and international scientific research projects***

1. Participation in the Project "FhfFC: Future Home for Future Communities"
   Period: 08/01/2018-07/01/2019
   Certificate of participation IPCB protocol n. 1722 of 03/09/2018

2. Award of research grants on the project "Innovative Integrated Ventilation System industrial in Composite Materials (VINMAC)"
   Period: 08/01/2018-07/01/2019
   Certificate of participation IPCB protocol n. 28 of 05/01/2018

3. Participation in the Project "Development of Customized Pots with new Composite, Multifunctional and Multicomponent Materials (MAPS)"
   Period: 08/01/2018-07/01/2019
   Certificate of participation IPCB protocol n. 1725 of 03/09/2018

4. Award of post-doc research grant on the project "Innovative materials and techniques for the conservation of the 20th century concrete-based cultural heritage (INNOVACONCRETE)"
   Period: 02/09/2019-01/09/2020
   Certificate of participation IPCB protocol n. 1437 of 30/07/2019

5. Award of a research grant on the project "New multi-sectoral smart and sustainable fabrics for creative design and made-in-Italy style (TEX-STYLE)"
   Period: 02/09/2020-01/09/2021
   Certificate of participation IPCB protocol n. 1392 of 04/08/2020

6. Participation in the Project "Made in Italy' functionalized, innovative and sustainable – FUNK ITALY"
   Period 02/09/2020-01/09/2021
   Certificate of participation IPCB protocol n. 237 of 04/02/2021

7. Participation in the Project "Automation of the separation of plastic waste aimed at its reuse by mechanical recycling (ATOS)"
   Period: 02/09/2020-in progress
   Certificate of participation IPCB protocol no. 1611 of 12/07/2021

8. Award of a research grant on the project "ENEL-POC for the experimentation of recycling processes of fiberglass composite materials from wind turbines at the end of their life"
   Period: 02/09/2021-in progress

Certificate of participation IPCB protocol n. 1898 of 02/09/2021

9. Participation in the Project "New flexible films for food packaging with high gas barrier and antimicrobial properties made through the application of coatings based on cellulose nanofibers (FLEX 2)" – Interim Report
   Period 02/09/2021-ongoing
   Certificate of participation IPCB protocol n. 104 of 17/01/2022
10. Participation in the Project "Development of new lead-free nanocomposite systems for X-ray protection"
    Period 02/09/2021-ongoing
    Certificate of participation IPCB protocol n. 1204 of 18/05/2022

- ***Technical contributions and service reports***

1. Report for VINMAC project, period 08/01/2018-07/01/2019
   IPCB Protocol no. 0000014 of 07/01/2019

2. Deliverable 3.1 of FUNK-ITALY project, year 2019

3. Deliverable 3.2 by FUNK-ITALY project, year 2019

4. Deliverable 3.3 of FUNK-ITALY project, year 2019

5. Report for INNOVACONCRETE project, period 02/09/2019-01/09/2020
   IPCB Protocol no. 1444 of 31/08/2020

6. Deliverable 2.6 of INNOVACONCRETE project, year 2020

7. Deliverable 2.12 of INNOVACONCRETE project, year 2020

8. RIPA-PAUN project deliverable, year 2020

9. Report for TEX-STYLE project, period 02/09/2020-01/09/2021
   IPCB Protocol no. 1916 of 12/07/2021

10. Report V SAL for TEX-STYLE project, year 2021
    IPCB Protocol no. 1767 of 02/08/2021

11. REPORT VI SAL for TEX-STYLE project, year 2021
    IPCB Protocol no. 2629 of 25/11/2021

12. Report VII SAL for TEX-STYLE project, year 2021
    IPCB Protocol no. 236 of 27/01/2022

13. Report VIII SAL for TEX-STYLE project, year 2021
    IPCB Protocol no. 1444 of 15/06/2022

14. REPORT of ATOS project activities, year 2021

15. ENEL-POC project activity report, year 2022

IPCB Protocol no. 1302 of 01/06/2022

16. Project activity report "Development of new lead-free nanocomposite systems for X-ray protection", year 2022
    IPCB Protocol no. 107 of 18/01/2022

17. Project activity report "Development of new lead-free nanocomposite systems for X-ray protection", year 2022
    IPCB Protocol no. 1000 of 26/04/2022

- ***Participation in conferences and seminars***

1. IPCB Workshop "Current and future chellenges in advanced materials, sustainability, health and nanomedicine" Intervention: Engineering of mesoporous silica nanoparticles as nanocarriers of corrosion inhibitors Pozzuoli, Italy, 14-16/12/2020.

2. 2nd annual meeting "INNOVACONCRETE" Chania, Crete, Greece, 13-14/02/2020.

3. Macrogiovani Conference 2017 – AIM: Speech: PDMS Micro-lenses Printing onto Micro-fluidic Channel through Pyro-Electro-Hydro-Dynamic Dispenser. Trento, Italy, 22-23/06/2017.

4. IONS Naples 2016 Meeting. Naples, Italy, 6-8/07/2016.

5. Conference "Polychar27, the 27th Annual World Forum on Advanced Materials" Naples, Italy, 14-17/10/2019.

6. Futuro Remoto dissemination event, promoted by Fondazione Idis - Città della Scienza, by the seven Universities of the Campania Region and by M.I.U.R. – Regional School Office for Campania Directorate General. Naples, Italy, 25-28/05/2017.

7. Futuro Remoto dissemination event, promoted by Fondazione Idis - Città della Scienza, by the seven Universities of the Campania Region and by M.I.U.R. – Regional School Office for Campania Directorate General. Naples, Italy, 07-10/10/2016.

8. Workshop "The protection of Intellectual Property Rights – IPR", training day at CNR – research area Napoli 3, Pozzuoli (NA), 20/03/2015.

9. Seminar "1st International School on Nano-Tooling: Manipulating, Shaping and Functionalizing the Matter". Pozzuoli (NA), Italy, 30-31/05/2017.

10. PhD School "1st school of Photonics on Photonic Integration: Advanced materials, new technologies and applications". Erice (TP), Italy, 26/09-01/10/2016.

Personal skills and competences

Mother tongue	Italian
Other languages	**English**

Self-evaluation

English

Comprehension		Spoken		
Listening	Reading	Oral interaction	Oral production	Written
B1	B1	B1	B1	B1

(*) Common European Framework of Reference

Computer skills and competences

Knowledge of the programming language C++, Windows and office package, Image-J.

Social skills and competences

Good ability to interact and communicate. Propensity to search for creative solutions and predisposition and experience in teamwork. Participation in volunteering activities.