




PERSONAL INFORMATION	Marino Lavorgna	
		Via G.Pitò 18, 82030 Puglianello, Italy
		+39 3280450002
		marino.lavorgna@cnr.it
	Sex male Date of birth 10/07/1970 Nationality Italian	
CURRENT POSITION	Research Director at Institute of Polymers, Composite and Biomaterials, IPCB-CNR in Portici/Napoli and Lecco, Italy	
RESEARCH TOPICS / EXPERIENCES	<ul style="list-style-type: none"> ▪ Development of smart and active coating able to control the release of useful compounds (antimicrobial, antioxidant and anticorrosive) for Cultural Heritage and food packaging sectors ▪ Development of hybrids and nanocomposites by using sol-gel approach and preformed nanoparticles (silica, phyllosilicate, carbon nanotubes and graphene and its derivatives, 2D fillers) in traditional and sustainable polymers (polysaccharides, proteins) for Transport, Energy, Buildings and Cultural Heritage sectors ▪ Developments of high specific surface materials by using sustainable polymer and inorganic nanoparticles for specific adsorption of VOCs ▪ Developments of lightweight materials by using organic-inorganic systems with enhanced thermal insulation properties (thermal efficiency of buildings and life environments) ▪ Multiscale characterization of hybrid and nanostructured materials by small angle X-Ray diffraction. 	
KEYWORDS	Polymers, composites, nanoparticles, graphene, stimuli-responsive particles, sustainable composites, multifunctional coatings, advanced materials for Cultural Heritage, SAXS analysis	
SCIENTIFIC / TECHNICAL QUALIFICATION	▪ H-index (Scopus)	- 36
	▪ No. publications (Scopus):	- 180
	▪ No. citations (Scopus):	- >4200

EDUCATION AND TRAINING

December 2009	- PhD in Polymer Technology at Polymer Technology and Engineering Materials (IPTME), Materials Department, Loughborough University, Loughborough (UK)
June 1997	- Master degree in "Industrial Chemistry" at University of Naples Federico II, June 1997.
since 05/04/2016 to 03/05/2016 and since 20/08/2017 to 12/09/2017	- Visiting researcher at Department of Materials of Sichuan University in the framework of Graphene based Nanocomposite- Joint Lab between IPCB-CNR and SKPLME Sichuan University
since 04/10/2010 to 14/10/2010	- Visiting researcher at Institute of Macromolecular Chemistry AVCR Academy of Sciences of the Czech Republic in the framework of the international cooperation between CNR and AVCR (Czech Rep)
since 25/11/2003 to 14/11/2004	- Visiting Researcher Associate at Institute of Polymer Technology and Engineering Materials, Loughborough University, Loughborough (UK)

WORK EXPERIENCE

since January 2021	- Research Director, I Level, National Research Council
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since November 2019	- Senior Researcher, II Level, National Research Council
since December 2001	- Researcher, III Level, National Research Council
Since October 1998	- Researcher with temporary position, Department of Engineering of Materials and Production, University Federico II – Naples

MAIN ROLES AND RESPONSIBILITIES

Since November 2021	- Responsible of the Secondary Working Site of Institute of Polymers, Composites and Biomaterials, IPCB-CNR SS in Lecco
Since November 2019	- Scientific Responsible of the Secondary Working Site of Institute of Polymers, Composites and Biomaterials, IPCB-CNR SS in Lecco
Since May 2019	- Member of the Scientific Committee board of the Department of Chemical Science and Materials Technology of the National Research Council (elected by the researchers and technologists of the Department)
Since May 2014	- Secretary of the Multifunctional Polymers and Biomaterials Research Center established between the Department of Chemical Sciences and Materials Technology of CNR and the Sichuan University
Since 2008 to 2013	- Member of the Scientific and Technological Committee of IMCB-CNR
Since 2012 to 2017	- Member of the scientific board of the Italy Chemistry Society of the Regione Campania

SERVICE TO NATIONAL AND INTERNATIONAL COMMUNITY

Since 2021	- Component of Editorial Advisory Board of "ACS Applied Polymer Materials" (IF 4.1)
2020	- Member of the International Evaluation Panel of Bata University in Zlin (Czech Rep)
Since 2020	- Associate Editor of Polymer Chemistry (Speciality Sections in Frontiers in Chemistry and Frontiers in Materials)
Since 2019	- Member of Editorial Board of Materials (IF 3.1), MDPI Edition - Editor of Polymers (IF 3.5), MDPI Edition from July 2019
Since 2018	- Permanent member of the International Scientific Committee of the PolyChar Congress, World Forum on Advanced Materials
Since 2019	- Member of the International Exchanges Panel of the Royal Society grants and awards
Since 2012 to 2020	- Expert Evaluator for the Kazakhstan Council of Research and Technology of research projects in the field of advanced materials
2015	- Expert Evaluator for the Ministry of Education, Youth and Sports of Czech Rep for the project Individual National Projects for the Area of tertiary Education, research and development
2013-2018	- International Expert in research project of Sichuan University Talent 111
2013-2018	- International Expert in the Research team of the project by HITSZ International Science and Technology Cooperation Project founded by Shenzhen Government

2013-2016	- International Expert in the project “Development of polymer nanocomposites by using ILs” [400531/2013-5] of Institute of Quimica of Universida de Federal do Rio Grande do Sol
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ACADEMIC QUALIFICATION and TEACHING and TUTORING EXPERIENCE

Since January 2021	- Qualification of I level (full professor for teaching in 09/D1 class (Materials Science and Technology))
Since 2014 to 2020	- Qualification of II level (associate prof for teaching in 09/D1 class (Materials Science and Technology))
2012-2014	- University of Sannio, Benevento, Lecturer with temporary position in “Materials Science and Technology”
2007-2009	- University of Napoli Federico II, Lecturer with temporary position in “Materials Science and Technology”
2005-2007	- University of Molise, , Lecturer with temporary position in “Materials Science and Technology”
Since 2004	- Tutor of three PhD students from University of Porto Alegre (Brasil), (2014-2015); tutor of several master students from Sichuan University with internship to IPCB-CNR, Portici (2018-2019); tutor of visiting researchers, prof R.Andrade from Mackgraphe Institute (Brazil) and prof Zhan from Liaocheng University (China); tutor of several Master theses with the DICMaPI department of Federico II University (from 2002 – to present), co-tutor of PhD students: A.Cabrini, XXXVI Ciclo, E.Orlo, XXXIII Ciclo; E.Lago, XXXI Ciclo; C.Ascione, XXX Ciclo; F.Piscitelli, XXIII Ciclo and L.Verdolotti, XX Ciclo.

MAIN RESEARCH EXPERIENCE

2022-2025	▪ Horizon Europe, “GREen ENdeavor in Art ResToration”, GREENART, Gran Agreement finalization, 2022-2025, Responsible CNR, value 330k€.
2022-2023	▪ Co-applicant (Applicant prof E.Mele of Loughborough University) of the awarded project “Unravelling the chemical-physical mechanisms that control the spatial distribution of conductive fillers within polymeric nanofibers”, International Exchange 2021, Royal Society, value 20k€.
2022	▪ Project PRIN “Bio-inspired Plant Protection” BiPP, coordinator prof F. Pennacchio, UNINA, Progetto PRIN - Bando PRIN 2020, Responsible for IPCB SS Napoli/Portici value 120k€.
2021-2023	▪ INAIL project PROFIL, Filamenti Multimateriali per la Realizzazione di protesi personalizzate ad alte prestazioni con focus su adaptive sport, funded by INAIL focused on the development of new materials for prosthesis (2020-2023), Coordinator, 2020-2023, value 900k€
2021-2023	▪ Industrial project, Jaber Innovation srl “Caratterizzazione di coating barriera agli oli minerali applicati su substrati di cellulosa”, IPCB Responsabile, value 90k€
2019-2022	▪ APACHE “Active & intelligent Packaging materials and display cases as a tool for preventive conservation of Cultural Heritage” Responsible for IPCB, value 140k€.

2019-2021	▪ Responsible for IPCB of project “Rete Intelligente dei Parchi Archeologici (RIPA - PAUN), funded by Campania region”, value 80k€.
2018-2021	▪ InnovaConcrete, (nr. 760858), “Innovative materials and techniques for the conservation of 20th century concrete-based cultural heritage”, Horizon 2020, Responsible for IPCB, value 100k€.
2018-2020	▪ Grande Rilevanza project founded by the Minister of Foreign Affairs of Italy “Graphene related INNovative 2D materials for Sustainable ENerGetIcs and catalysis (GINSENG)”, PI prof Granozzi (UNIPD), Responsible for IPCB, value 20k€.
2017-2019	▪ INAIL project MAPS, Multimaterial for Adapted Prosthetic Socket with INAIL focused on the development of new materials for prosthesis, Responsible for IPCB, value 276k€.
2015-2018	▪ Grande Rilevanza project “Graphene and perovskite hybrid materials for energy and environment applications (GRAPE-MAT)” for the international cooperation Italy-China, Responsible for IPCB, value 68k€.
2015-2018	▪ Coordinator of Joint Laboratory for Graphene-based Multifunctional Polymer Nanocomposites established between the CNR and SKPLME, Chengdu, China, value 150k€.
2015-2018	▪ Horizon 2020, “NANOmaterials for the REStoration of works of ART” NANORESTART, grant agreement No 646063, Responsible for DSCTM-CNR and IPCB, value 280k€
2013-2015	▪ International cooperation project “New sustainable approaches in the synthesis of epoxy-silica hybrids with tuneable properties” between IPCB-CNR and IMC (AVCR), Coordinator for CNR, value 15k€.
2011-2013	▪ International cooperation project “Electrically conductive polymer nanocomposite films with carbonaceous fillers for electronic packaging” cooperation between CNR and Institute of Organic Chemistry (CAS), Coordinator for CNR, value 15k€
2007-2009	▪ MIUR Research Project “Innovative Composite Materials for Buildings Applications”, MACE, industrial project IMAST scral, Responsible IPCB, value 820k€.
2005-2007	▪ Industrial project, Diatech srl “Development of bio-soluble basalt fibers as reinforcing of composite materials for civil building and automotive applications, TERA Total Ecological Rock Applications”, Responsible for IPCB, value 514k€.
2003-2004	▪ Misura POR 3.17, “Development of composite materials based on polyurethane for nautic applications”, Responsible for IPCB, value 45k€
2002-2004	▪ Legge 5/2002, Regione Campania, “Optimization of Nafion ionomeric membrane for Fuel Cells applications by using organo-modified silica domains”. Coordinator, value 54k€

OTHER RELEVANT EXPERIENCES

Since 2009	- Co-founder of Spin-Off company Hypucem srl addressed to the development and production of organic-inorganic materials for <u>improving the thermal management of buildings and life environments</u>
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HONOURS, AWARDS, MEMBERSHIPS, OTHER QUALIFICATIONS

2007	- Member of the winner team of the International Polymer Challenge Prize awarded by VenetoNanotech and Imast scral in 2007 with the project HYPUCEM focused on the realization of a new hybrid material for building applications (Prize 300.000€)
Since 2003	- Several Highly commendable Awards for papers or posters presented in international congress: a) 5th International Conference on Ground Improvement Techniques, 22-23 March 2004 Kuala Lumpur, Malaysia, b) The Polymer Processing Society 24th Annual Meeting, June 15-19, 2008, Salerno (Italy); c) 3rd Shelf Life International Meeting, Ischia 25-27th June; d) 5th Shelf Life International Meeting, June 2012, Busan (Corea); e) 7th Shelf Life International Meeting for Young, 21-23 October 2015, Monza (Italy).

ADDITIONAL INFORMATION Publications

List of the most relevant publications (up to 5)

- M.Salzano de Luna, GG.Buonocore, C.Giuliani, E.Messina, G.Di Carlo, M.Lavorgna, L.Ambrosio, GM.Ingo, "Long-Lasting Efficacy of Coatings for Bronze Artwork Conservation: The Key Role of Layered Double Hydroxide Nanocarriers in Protecting Corrosion Inhibitors from Photodegradation", *Angewandte Chemie - International Edition*, 57(25), pp. 7380-7384, 2018
- C.Yu, M.Salzano de Luna, A.Russo, I.Adamiano, F.Scherillo, Z.Wang, X.Zhang, H.Xia, M.Lavorgna, "Role of Diisocyanate Structure on Self-Healing and Anticorrosion Properties of Waterborne Polyurethane Coatings", *Advanced Materials Interfaces*, 8, 2100117, (2021).
- C.Yu, M.Salzano de Luna, A.Marotta, C.Ponti, I.Esposito, F.Scherillo, Z.Wang, X.Zhang, H.Xia, M.Lavorgna, "NIR light-triggered self-healing waterborne polyurethane coatings with polydopamine-coated reduced graphene oxide nanoparticles", *Progress in Organic Coatings*, 161, 106499, (2021).
- F.Olivieri, R.Castaldo, M.Cocca, G.Gentile, M.Lavorgna, "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", *ACS Applied Materials and Interfaces*, 13, 40, 48141-48152, (2021).
- F.Olivieri, R.Castaldo, M.Cocca, G.Gentile, M.Lavorgna, "Mesoporous silica nanoparticles as carriers of active agents for smart anticorrosive organic coatings: a critical review", *Nanoscale*, 13, 9091-9111, (2021).

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Signature

