

Lorenzo Degli Esposti

Associate Professor

EDUCATION AND TRAINING

2023

Abilitazione Scientifica II Fascia - CHEM/03-A.

ID: 18090. 08/06/2023 – 08/06/2034

Ministero dell'Istruzione, Università e Ricerca

2019

Ph.D. in Materials Science and Technology

Thesis Title: Tailoring Calcium Phosphate Nanoparticles For Medical Applications: A Functional By Design Approach.

Evaluation: Excellent.

Doctor Europaeus qualification.

Università degli Studi di Parma

2016

M.Sc. in Photochemistry and Molecular Materials

Thesis Title: Synthesis and Characterization of New Co-Crystals for Racemic Resolution.

Evaluation: 110/110 Magna Cum Laude.

Università degli Studi di Bologna, Dipartimento di Chimica "G. Ciamician"

2014

B.SC. in Chemistry and Materials Chemistry

Thesis Title: Sistemi Host-Guest Fotoattivi Basati su Calixareni.

Evaluation: 110/110 Magna Cum Laude.

Università degli Studi di Bologna, Dipartimento di Chimica "G. Ciamician"

PROFESSIONAL HISTORY

2024 - ongoing

Associate Professor

Dipartimento di Chimica e Chimica Industriale, Università di Genova

2023 - 2024

Non-Permanent Researcher (III Level)

Task: development of innovative therapeutic RNA nanodelivery systems - PNRR project CN00000041 "National Center for Gene Therapy and Drugs based on RNA Technology", Decreto Direttoriale MUR n. 0001035 del 17/06/2022 (BANDO N. 400.1 ISSMC, già ISTEC, PNRR MUR M4C2)

Istituto di Scienza, Tecnologia e Sostenibilità per lo Sviluppo dei Materiali Ceramici del Consiglio Nazionale delle Ricerche (ISSMC CNR, già ISTEC CNR)

08/2022

Visiting Researcher

Task: Development of fluorescent carbon dots from plant waste and their radioisotope labeling. Activity carried out as part of the MSCA RISE 101008159 action "UNAT - Ultra-small Nanohybrides for Advanced Theranostics".

Bioemission Technology Solutions, Athens, Greece

2022 - 2023

Postdoctoral Research Fellow

Task: development of bioceramic nanomaterials - research project "NANOBIOCER: Nano-bioceramici per la salute e l'ambiente" (CUP B59J21026330005).

Istituto di Scienza, Tecnologia e Sostenibilità per lo Sviluppo dei Materiali Ceramici del Consiglio Nazionale delle Ricerche (ISSMC CNR, già ISTE CNR)

08/2019

Visiting Researcher

Task: Development of calcium phosphate-bioactive glass hybrid particles. This work was carried out under the Mobility Trust grant of the Journal of the European Ceramics Society. (Grant JECS Trust 2019209).

Institute of Biomaterials of the Department of Materials Science and Engineering at the Friedrich Alexander University of Erlangen-Nuremberg, Germany

2019 - 2022

Research Fellow

Task: development of bioceramic nanomaterials - research project "An In Vitro and Ex Vivo Model of Biomimetic Regenerative Devices to Treat Bone Metastases and Soft Tissue Tumors: BIOBOS Project" (CUP B59J21026330005).

Istituto di Scienza e Tecnologia dei Materiali Ceramici (ISTEC CNR)

09/2018

Visiting Researcher

Task: Development of calcium phosphate nanoparticles and their radioisotope labeling. This activity was carried out under the MSCA RISE 645757 action "VIVOIMAG - Multimodal imaging of the in vivo fate of bone transplants".

University of West Attica and NCSR Demokritos, Athens, Greece

2016 - 2019

Ph.D. student

Istituto di Scienza e Tecnologia dei Materiali Ceramici (ISTEC CNR), Università di Parma

ACADEMIC APPOINTMENTS

2025

Member of the DCCI Career Day Committee

Organizing committee of the Career Day event dedicated to job placement for chemistry graduates and Ph.D. graduates with established Ligurian companies.

Dipartimento di Chimica e Chimica Industriale, Università di Genova

EXPERIENCE

MAIN SEMINARS

11/2023 Invited Seminar

Title: What means to study a nanomaterial: challenges of nano-size

Dipartimento di Chimica e Chimica Industriale, Università di Genova

08/2019 Invited Seminar

Title: ISTEC CNR Bioceramics and Bio-Hybrid Composites Group: calcium phosphates from nanoparticles to organized hierarchical 3-dimensional scaffolds

Institute of Biomaterials of the Department of Materials Science and Engineering at the Friedrich Alexander University of Erlangen-Nuremberg, Germany

04/2019 Invited Oral Presentation

Title: Citrate-stabilized amorphous calcium phosphate doped with fluoride ions: a new biomimetic nanomaterial in dentistry

TRACE-2: Tissue Regeneration: Advanced Ceramics and Composites Conference, Laveno di Menaggio (Como)

SCIENTIFIC RESPONSIBILITY FOR RESEARCH PROJECTS ACCEPTED FOR FUNDING ON THE BASIS OF COMPETITIVE CALLS INVOLVING PEER REVIEW

2023-2025 Research Personnel.

Project Title: "Calcium phosphates materials with Nature inspired bactericidal surface: towards a non-antibiotic approach to treat bone infection (CHANCE)".

Call: PRIN 2022, grant 2022CCN7WM.

Ministero dell'Università e Ricerca

2023-2025 Research Personnel.

Project Title: "Progetto PNRR CN00000041 "National Center for Gene Therapy and Drugs based on RNA Technology".

Call: PNRR projects, grant MUR n. 0001035

Ministero dell'Università e Ricerca

2023-2025 Research Personnel.

Project Title: "Calcium phosphate nanocomposites for improving nutrient use efficiency and crop yield and reducing loss".

Call: USDA-NIFA-AFRI-009003, grant 2022-08579

National Institute of Food and Agriculture, Dipartimento della Agricoltura degli USA

2022-2025 Research Personnel.

Project Title: "Antimicrobial peptides loaded inhalable calcium phosphate nanoparticles for the counteraction of antibiotic resistance: towards a new therapy for respiratory infections (AppliCare)".

Call: PRIN 2020, grant 202085RFNY

Ministero dell'Università e Ricerca

2022-2025 Research Personnel.

Project Title: "Extraction of bioactive compounds from fish industry byproducts and their application in the cosmetic field (SEARCULAR)".

Call: Progetti di Ricerca@CNR.

Consiglio Nazionale delle Ricerche

2021-2025 Research Personnel.

Project Title: "Ultra-small Nanohybrides for Advanced Theranostics (UNAT)".

Call: MSCA-RISE-2020, grant 101008159

European Commission - Horizon 2020

2019 Principal Investigator

Project Title: "Calcium Phosphate - Bioactive Glass Core-Shell Nanoparticles for Dental Remineralization".

Call: JECS Trust mobility call, grant 2019209

Journal of European Ceramic Society Trust (JECS Trust)

2018-2020 Research Personnel.

Project Title: "An in vitro and ex vivo model of biomimetic regenerative devices to treat bone metastases and soft tissue tumors (BIOBOS)".

Call: Bando Finalizzata 2016, grant GR-2016-02364704.

Ministero della Salute

2018-2020 Research Personnel.

Project Title: "Nanoparticelle biocompatibili ed inalabili funzionalizzate con peptidi antimicrobici per contrastare la formazione di biofilm e l'antibiotico resistenza: verso una nuova potenziale terapia per le infezioni correlate alla fibrosi cistica".

Call: Bando Finanziamento 2018, grant FFC#20/2018.

Fondazione per la Ricerca sulla Fibrosi Cistica - Onlus

2018 Principal Investigator

Project Title: "Role of small dicarboxylic acids on hydroxyapatite crystal growth by time resolved in-situ SAXS/WAXS".

Call: beamline access grant, grant 20175403.

CERIC-ERIC Consortium

2018-2019 Research Personnel.

Project Title: "Multimodal imaging of the in vivo fate of bone transplants (VIVOIMAG)".

Call: MSCA RISE H2020-MSCA-RISE-2014, grant 654757.

European Commission - Horizon 2020

2017-2021 Research Personnel.

Project Title: "CUPIDO - cardio ultraefficient nanoparticles for inhalation of drug products".

Call: H2020-Eu.2.1.2 - INDUSTRIAL LEADERSHIP, argomento NMBP-10-2016, grant 720834.

European Commission - Horizon 2020

2016-2025 Research Personnel.

Project Title: Materiali nanostrutturati per applicazioni dentali e maxillofacciali.

Call: Progetto CNR-ISTEC autofinanziato; PGDP ISTEC-CNR (2020-2021) DCM.AD003.061.

Consiglio Nazionale delle Ricerche

PRIZES AND ACCOLADES FOR SCIENTIFIC ACTIVITY, INCLUDING MEMBERSHIP OF ACADEMIES**2023 Translational Award**

Award to the best translational research for the presentation "Inhalable microparticles embedding calcium phosphate nanoparticles for cardiac drug delivery".

European Society for Biomaterials – ESB

2023 Image of the month award

February award for the best image on biomaterials image for the image "Nanohearth"

Board del Young Scientist Forum della European Society for Biomaterials

2021 Special Award “Elena Benaduce”

Award to the research with high impact on health and wellbeing within the 10th National Competition for young researchers “GiovedìScienza”.

Associazione GiovedìScienza Onlus

2019-ongoing Membership of Società Chimica Italiana.

2019- ongoing Membership of European Society for Biomaterials.

2019-2025 Membership of Società Ceramica Italiana.

2017- ongoing Membership of Società Italiana Biomateriali.

2016-2025 Affiliation to Consiglio Nazionale delle Ricerche.

PARTICIPATION IN THE CREATION OF NEW BUSINESS ENTITIES (SPIN-OFFS), DEVELOPMENT, USE AND COMMERCIALISATION OF ACADEMIC PATENTS**22/12/2022 Industrial Invention Patent**

Title: “Composite material based on bioactive glass and amorphous calcium phosphate, and the process for producing the same”, registered by Consiglio Nazionale delle Ricerche and Friedrich-Alexander-Universität Erlangen-Nürnberg.

Inventors: M. Iafisco (30%), L. Degli Esposti (30%), K. Zheng (20%), A. R. Boccaccini (20%). PCT n. PCT/IB2023/062999.

2022-2025 Technology transfer and external consulting for the CNR spin-off company

NanoPhoria Bioscience s.r.l.

Incarico: Consulenza su produzione in scala pilota di nanoparticelle di fosfato di calcio funzionalizzate con biomolecole ad azione terapeutica contro disfunzioni cardiache, e validazione del materiale.

NanoPhoria Bioscience s.r.l.

2019-2025 Technology transfer and external consultancy for Curasept s.r.l.

Project title: CNR-ISTEC research activity aimed at perfecting CNR patent No.

102018000006753 to improve remineralizing properties and regenerate enamel and dentin.

Curasept A.D.S. s.r.l.

2017-2021 Technology transfer to Finceramica S.p.A. as part of the H2020 "Cupido" project.

Assignment: Consulting on the scale-up synthesis of calcium phosphate nanoparticles functionalized with biomolecules with therapeutic effects against cardiac dysfunction, and process validation.

Finceramica s.p.a.

PUBLICATIONS – BIBLIOMETRIC PARAMETERS

Source: Clarivate Web of Science

Researcher unique identifiers:

ORCID: 0000-0002-6596-560X

ResearcherID: AFE-1890-2022

Publications: 55 (18 as first author, 6 as corresponding author)

Journal cover articles: 5

Book Chapters: 2

Patents: 1

h-index: 17

Total citations: 1015 (113 citations/year)