

CURRICULUM VITAE



PERSONAL INFORMATION

Name **BUONOCORE, Daniela**
Address **10, P.zza Cavagneria, 27100, Pavia, Italy**
Telephone **(+) 39 3389253285**
E-mail **daniela.buonocore@unipv.it**

Nationality Italian
Date of birth 3rd, October, 1977

WORK EXPERIENCE

- Dates (from – to) **From March 2023 today**
- Name and address of employer **University of Pavia, Department of Biology and Biotechnology "L. Spallanzani"
Via Ferrata, 9 – 27100 – Pavia (PV) – Italy.
Scientific Disciplinary Sector Bio/14 - Pharmacology
Researcher (RTDa)
Research activities concerning – «Immunotoxicological properties of NPs for nucleic acids delivery - Characterization of the organ/tissue-specific immunotoxicological profile of NPs *in vitro* and *in vivo*, in rodent models, assessed in the CNS»**
- Type of business or sector
- Occupation or position held
- Main activities and responsibilities **Co-founder of bioRESTART**, academic Spin-off of the University of Pavia and innovative Startup that deals with Sustainability and Circular Economy – supported by EITFood Seedbed incubator co-funded by European Union

Scientific Project Manager and **PI** for funded research agreements in collaboration and partnership with (see reference letters attached below):
 - Company GRAAL S.r.l. - *in vitro* studies to evaluate safety and efficacy of products deriving from patented processes with Truffini & Reggè Milano technology. Rheological tests, colorimetric tests and cell culture *in vitro* tests are carried out.
 - Company Indena S.p.A. - plant extracts: *in vitro* study of the 5 α -reductase activity in a co-culture model for Benign Prostatic Hyperplasia
Lecturer and member of the teaching board for the post-graduate Master's courses of II level in Regulatory Sciences "G. Benzi", Dept. of Biology and Biotechnology "L. Spallanzani"

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- Dates (from – to)
 - Name and address of employer
 - Type of business or sector
 - Occupation or position held
 - Main activities and responsibilities
- From December 2021 to February 2023
 University of Pavia, Department of Biology and Biotechnology "L. Spallanzani"
 Via Ferrata, 9 – 27100 – Pavia (PV) – Italy. Supervisor Dr Maurizia Dossena
 Scientific Disciplinary Sector Bio/14 - Pharmacology/Regulatory Sciences
Borsista per attività di ricerca / research fellowship (Reg. D.R. 86-2011)
 Research activities «Studio in vitro per investigare la potenza relativa di estratti vegetali da piante medicinali nell'inibire l'attività dell'enzima 5 α -reduttasi (ISOFORME I e II) sia in un modello di linea cellulare BPH-1 da tessuto prostatico caratterizzato da iperplasia prostatica benigna (IPB) sia in co-culture di cellule epiteliali e fibroblasti derivanti da biopsie prostatiche di pazienti affetti da IPB»
Supervisor of the scientific research projects developed in the laboratory of Pharmacology-Parmacobiochemistry, Nutrition and Nutraceuticals- Department of Biology and Biotechnology "L. Spallanzani"-University of Pavia (Italy).
Supervisor for University thesis in Biological Sciences and Biotechnology, University of Pavia (Italy).
Lecturer and member of the teaching board for the post-graduate Master's courses of II level in Regulatory Sciences "G. Benzi", Dept. of Biology and Biotechnology "L. Spallanzani"
- Dates (from – to)
 - Name and address of employer
 - Type of business or sector
 - Occupation or position held
 - Main activities and responsibilities
- From November 2015 to November 2021
 University of Pavia, Department of Biology and Biotechnology "L. Spallanzani"
 Via Ferrata, 9 – 27100 – Pavia (PV) – Italy. Supervisor Dr Maurizia Dossena
 Scientific Disciplinary Sector Bio/14 - Pharmacology/Regulatory Sciences
Assegnista di Ricerca (B) / postdoctoral research fellowship (Legge 240/2010) – signed on 05/10/2015
 Research activities concerning the sustainable recycling of vegetable and fruit wastes to recover phytochemicals with nutraceutical and/or cosmeceutical properties - *Recupero e valutazione di biodisponibilità ed efficacia in vitro di sostanze a funzione nutraceutica/cosmeceutical da scarti vegetali di I, II, IV Gamma e da colture algali*
Supervisor of the scientific research projects developed in the laboratory of Pharmacology-Parmacobiochemistry, Nutrition and Nutraceuticals- Department of Biology and Biotechnology "L. Spallanzani"-University of Pavia (Italy).
Supervisor for University thesis in Biological Sciences and Biotechnology, University of Pavia (Italy).
Lecturer and member of the teaching board for the post-graduate Master's courses of II level in Regulatory Sciences "G. Benzi", Dept. of Biology and Biotechnology "L. Spallanzani"
- Dates (from – to)
 - Name and address of employer
 - Type of business or sector
 - Occupation or position held
- From September 2012 to October 2015
 AKESIOS Group S.r.l. Via A. Cremonese, 172- 43126 PARMA
 High education school of Nutrition in Sport and Integration (Sa.N.I.S.) powered by the European Sport Nutrition Society (ESNS)
Lecturer
- Dates (from – to)
 - Name and address of employer
 - Occupation or position held
- From September 2012 to September 2015
 University of Pavia, *Dipartimento di Sanità Pubblica Medicina Sperimentale e Forense*
 Via Forlanini, 12 - 27100 Pavia (PV) – Italy
Teaching Assistant of General Pharmacology course for bachelor's degree in physical Activity and Sports Sciences
- Dates (from – to)
 - Name and address of employer
 - Type of business or sector
- From October 2008 to October 2015
 University of Pavia, (2008-2009) Department of *Scienze Fisiologiche -Farmacologiche, Cellulari Molecolari*, Via Forlanini, 6 - 27100 Pavia; (2009-2011) Department of *Medicina Legale Scienze Forensi e Farmaco-Tossicologiche "A. Fornari"*, Via Forlanini, 2 - 27100 Pavia; (2012 – 2015) Department of Biology and Biotechnology "L. Spallanzani", Via Ferrata, 9 – 27100 – Pavia (PV) – Italy. Supervisor Dr Fulvio Marzatico
 Scientific Disciplinary Sector Bio/14 - Pharmacology

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- Occupation or position held
- Main activities and responsibilities
- Dates (from – to)
- Name and address of employer
 - Type of business or sector
 - Occupation or position held
- Main activities and responsibilities

EDUCATION AND TRAINING

- Date
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
- Title of qualification awarded
- Date
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
- Title of qualification awarded
- Date
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
- Title of qualification awarded

Assegnista di Ricerca (B)/ research fellowship (*Legge 449/1997-Finanziaria 1998*) – signed on 28/10/2008

Research activities concerning the *in vitro* hepatoprotective and antioxidant activities of crude extract and isolated compounds from aromatic and medicinal plants – *Valutazione delle potenzialità trofico-cicatrizziali ed antiossidanti di estratti vegetali centroafricani in un modello cellulare di wound healing*

Supervisor of the scientific research projects developed in the laboratory of Pharmacology-Parmacobiochemistry, Nutrition and Nutraceuticals- Department of Biology and Biotechnology "L. Spallanzani"-University of Pavia (Italy)

Supervisor for University thesis for bachelor and master degrees in Biological Sciences, Biotechnology, Pharmacy, Drug Sciences, Physical Activity and Sports Sciences, University of Pavia (Italy)

From April 2008 to September 2008

University of Pavia, Department of *Medicina Legale Scienze Forensi e Farmaco-Tossicologiche "A. Fornari"*, Via Forlanini, 2 - 27100 – Pavia (PV) – Italy

Scientific Disciplinary Sector Bio/14 - Pharmacology

post-graduate grant position

Research activities concerning the evaluation of the potential trophic repair and the antioxidant capacity of the extracts of *Euphorbia crotonoides* and *Clerodendrum myricoides* in a cell model of Wound Healing

February 2016

University of Pavia

Research PhD project was based on the study of the effect of 8-week n-3 fatty-acids supplementation on oxidative stress and inflammation in middle- and long-distance running Athletes. The obtained data were published - Buonocore, D., Verri, M., *et al.* Effect of 8-week n-3 fatty-acid supplementation on oxidative stress and inflammation in middle- and long-distance running athletes: a pilot study. *Journal of the International Society of Sports Nutrition* 2020, 17 (1):55 DOI: 10.1186/s12970-020-00391-4

PhD in Biomedical Sciences – XXVIII Cicle – aa 2014-2015, obtained on 12/02/2016

March 2012

University of Pavia, Department of Biology and Biotechnology "L. Spallanzani"

Application on Human Nutrition. The data obtained from the research project were published - Rossi, P., Buonocore, D., *et al.* Improving training condition assessment in endurance cyclists: Effects of *Ganoderma lucidum* and *Ophiocordyceps sinensis* dietary supplementation. *Evidence-based Complementary and Alternative Medicine* 2014, 2014: 979613 DOI: 10.1155/2014/979613

Post-graduate Master's Courses of II level "Master Universitario di II livello" in Human Nutrition – academic biennium 2010-2011, obtained on 16/03/2012

March 2011

University of Pavia, Department of *Medicina Legale Scienze Forensi e Farmaco-Tossicologiche "A. Fornari"*

Regulatory affairs in pharmaceuticals, food and cosmetic sectors. Personal research project was based on *Piano Generale di Progettazione e Sviluppo del Sistema di Gestione per la Qualità dell'Università degli Studi di Pavia*

Post-graduate Master's Courses of II level "Master Universitario di II livello" in Regulatory Sciences "G. Benzi" – aa 2008-2010, obtained on 25/03/2011

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- Date
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
- Date
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
 - Title of qualification awarded
- Level in national classification

SOCIAL SKILLS AND COMPETENCES

ORGANISATIONAL SKILLS AND COMPETENCES

Responsibility for or participation in studies and scientific research entrusted by qualified public or private institutions

June 2008

University of Pavia

State exam for professional certification/*Esame di Stato per l'esercizio professionale*
Biologist / Diploma di Abilitazione all'esercizio della professione di Biologo

March 2008

University of Pavia, *Facoltà di Scienze Matematiche Fisiche Naturali* - Department of Genetics and Microbiology "A. Buzzati Traverso". Supervisor Prof. Rino Cella

Research project was based on using chromatin immune-precipitation (ChIP) assay to spot target genes for E2F plant transcription factors

Master degree of Science (MSc) in Biological Sciences - Molecular Biology and Genetics, grade level 109/110 – aa 2006-2007, obtained 31/03/2008

First stage of tertiary education in Life Science

Research work together with graduating students, PhD students and postdoctoral researchers from Italy, Europe, Tanzania, Cameroon, Iraq, Mexico, Ecuador, Tunisia

Collaboration Agreement with academic partners:

- Participation in the research project: "Biochemical characterization and *in vitro* toxicological and efficacy test of medicinal plant extracts derived from North Africa area", in collaboration with Prof. Mohammed Neffati, Laboratory of Pastoral Ecosystems and Valorization of Spontaneous Plants and Associated Microorganisms, Arid Zone Research Institute (IRA), Médenine (Tunisia). Publications related to the project in which I am co-author: Tlili et al., 2021 BMC Complementary Medicine and Therapies, 21 (1):153; Tlili et al., 2019 PLoS ONE, 14 (9): e0213049
- Participation as **Principal Investigator** in the project: bioRESTART « Sustainable extraction method of functional secondary metabolites from vegetable wastes », in collaboration with Prof. Luca Forti, Dpt. of Life Science, University of Modena and Reggio Emilia, Italy, with Prof. Francesco Cardarelli, Laboratorio NEST, Scuola Normale Superiore, Pisa, Italy, with Prof. Paola Casati, Dipartimento di Scienze Agrarie e Ambientali - Produzione, Territorio, Agroenergia, University of Milano, Milano, Italy
- Participation in the joint research agreement, involved in the project SATREPS "Valorisation of Bioresources Based on Scientific Evidence in Semi-Arid and Arid Land for Creation of New Industry", signed by the General Director Pr. Houcine KHATTELI, Arid Zone Research Institute (IRA), Médenine (Tunisia) and Professor Hiroko Isoda, Faculty of Life and Environmental Sciences, University of Tsukuba, Tsukuba Ibaraki (Japan). The project follows the Nagoya Protocol
- Participation in the *Progetto di Ricerca Corrente 2016-2018 della Fondazione Mondino-Istituto Neurologico Nazionale a Carattere Scientifico-IRCCS*, title: "Alterazioni del metabolismo intermedio e Malattia di Alzheimer: rapporti con l'insulino-resistenza". Principal Investigator: Prof. Alfredo Costa, *Dipartimento di Scienze del Sistema Nervoso e del Comportamento-Università degli Studi di Pavia*. In collaboration with: *Università degli Studi di Pavia- Dipartimento di Medicina Interna e Terapia Medica-Istituto di Riabilitazione e di Cura ASP-IDR S. Margherita-Pavia* (Prof. Bruno Solerte); *Istituti Clinici Scientifici Maugeri-IRCCS, Istituto Scientifico di Pavia-Servizio di Medicina di Laboratorio* (Dr. Antonella Navarra e Mariella Bruni); *Istituti Clinici Scientifici Maugeri-IRCCS Istituto Scientifico di Montescano-Dipartimento di Ingegneria Biomedica* (Ing. Roberto Maestri). Publication related to the project in which I am co-author: Aquilani R. et al., *Nutrients*. 2020 12:1845. doi: 10.3390/nu12061845

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- Participation in the research project: “PLANET (oxaliPLatin NEurotoxicity prevention Trial): studio di fase II randomizzato per valutare l’efficacia di Superossido Dismutasi + Vitamina E (vs Placebo) nella prevenzione della neuropatia periferica da oxaliplatino in pazienti affetti da carcinoma del colon-retto”. Principal Investigator: Dr. Silvia Brugnattelli, S.C. di Oncologia-Fondazione IRCCS Policlinico San Matteo di Pavia. In collaboration with Istituti Clinici Scientifici Maugeri-IRCCS Istituto Scientifico di Montescano-Dipartimento di Ingegneria Biomedica (Ing. Roberto Maestri). Publication related to the project in which I am co-author: Aquilani R. et al., *Nutrients*;11(11):2667, 2019
- Participation in the research project: “Modello *in vitro* di pelle umana da espianto: valutazione della vitalità cellulare e analisi morfoistochimiche e biochimiche”. Principal Investigator Dr. Maurizia Dossena, Dpt. of Biology and Biotechnology, University of Pavia. In collaboration with Prof. Angela Faga, *Clinica del Lavoro e della Riabilitazione, Sezione di Chirurgia Plastica Istituti Clinici Scientifici Maugeri-I.R.C.C.S. Pavia*
- Participation in the research project: “Evaluation of the potential trophic repair and the antioxidant capacity of plants extracts, originally obtained from different countries in Central Africa, in a cell culture model of Wound Healing”. Principal Investigator Prof. Fulvio Marzatico, Dpt. of Medicina Legale Scienze Forensi e Farmaco-Tossicologiche “A. Fornari”, University of Pavia, Italy. In collaboration with Prof. Hamisi Masanya Malebo, Dpt. of Traditional Medicine Research, National Institute for Medical Research, University of Dar Al-Salaam.Tanzania
- Participation in the research project: *in vitro* and *in vivo* safety and efficacy studies of products falling into the food and pharmaceutical category, supporting the “Seqota Declaration by Ethiopia’s Minister of Health, Kesete Admasu, committed by Government of Ethiopia to improve nutrition and recognising the role of nutrition to propel sustainable development”. In collaboration with the School of Pharmacy, Addis Abeba University, Ethiopia (Prof. Dawit Teshome Gebregeorgise)
- Participation in the research project: “Study of inflammation and oxidative damage in different tissues and organs of homozygous (AA) mice with amyloid fibril formation”, in collaboration with Dr. Carla Tribioli, Consiglio Nazionale delle Ricerche – Istituto Genetica Molecolare (CNR-IGM) Pavia (Italy)
- Participation in the research project: «Effects of excessive energy intake on protein synthesis» in collaboration with Prof. Laurent Mosoni INRA, UMR 1019 Nutrition Humaine, Saint Genès Champanelle (France); Université Clermont, UFR Médecine, UMR 1019 Nutrition Humaine, Clermont-Ferrand (France), and Dr. Claire Gaudichon, INRA, UMR0914, UMR INRA/INA-PG/AgroParisTech: Physiologie de la Nutrition et du Comportement Alimentaire, Alimentation Humaine, Centre de recherche de Paris, FRA INRA and AgroParisTech, Paris (France). Publication related to the project in which I am co-author: Adechian et al., 2009 *Obesity* 17 (7): 1348-1355
- Participation in the research project: «La felicità non ha peso. Caratterizzazione di pazienti con Anoressia Nervosa in età pediatrica: valutazione del profilo ossidativo in relazione alla patologia». It was partially funded by Università-crowdfunding platform of the University of Pavia. Scientific Coordinator: Prof. Maria Grazia Bottone- University of Pavia. Carried out in collaboration with: Child Neuropsychiatry Unit, *Fondazione Mondino Istituto Neurologico Nazionale a Carattere Scientifico | IRCCS* (Dr. Renato Borgatti, Martina Mensi) and “Villa Esperia”-Salice Terme (PV) (Dr. Adele Andriulo).

Collaboration Agreement with European Institutes

Involved as member and co-founder of bioRESTART, academic spin-off of the University of Pavia, in the program EITFood, 2022 supported by European Institute of Innovation and Technology (EIT), a body of the European Union

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Collaboration Agreement for research projects, advising with Company/Association partners:

- **Scientific member** for University of Pavia in two national funded projects (*FEASR – Programma di Sviluppo Rurale 2014-2020 MISURA 16 - 167.443,86 euro and FEASR – Programma di Sviluppo Rurale 2007-2013 MISURA 124 - 170.604,00 euro*) in partnership *Associazione Temporanea di Scopo* with AOP Unolombardia S.a.c. a.r.l.
- **Principal Investigator** for the research project *in vitro* study of the 5 α -reductase activity in a co-culture model for benign prostatic hyperplasia funded with 20.000,00 euro in collaboration and supported by Lampugnani Farmaceutici S.p.A. The data obtained were published (**Buonocore, D., Verri, M., et al.** *Serenoa repens* extracts: *in vitro* study of the 5 α -reductase activity in a co-culture model for benign prostatic hyperplasia. *Archivio Italiano di Urologia e Andrologia* 2018, 90 (3): 199-202 DOI: 10.4081/aiua.2018.3.199 [IF 1.258]).
- **Principal Investigator** and **advisor** for *in vitro* studies of evaluation of safety and efficacy of technological products belonging to the category of Food Supplements and Medical Devices, in collaboration and supported by GRAAL S.r.l., Truffini & Reggè Milano S.r.l. The scientific collaboration has led to the development of the following brand products and their patent:
 - GLUTAREDOX that was concluded with a scientific publication (**Buonocore, D., Grosini, M., et al.** *Bioavailability Study of an Innovative Orobuccal Formulation of Glutathione. *Oxidative Medicine and Cellular Longevity* 2016, 2016: 3286365 DOI: 10.1155/2016/3286365 [IF 7.310]; and with a patent (13 August 2014 - Journal 6534 - New United Kingdom Patent Application No. 1411839.2 - Applicant: Olimed Ltd, Title: Tablet with differentiated absorption - Date Lodged: 2 July 2014)*
 - 0415 BRAIN TROPHIC *compresse orodispersibili a rilascio modificato – brevetto europeo: composizione ad assorbimento orobuccale per la neuroprotezione* (EP3243509)
 - PALMITOYLETHANOLAMIDE CALIBRATA 1500 Micron – **domanda di brevetto europeo: composizione alimentare o nutraceutica a base di PEA** (16183471.8);
 - IMMUNO-G-MATRIX BETAVIA that was concluded with a paper submitted, reviewed and under revision (**Buonocore D., et al.** *Immune-modulating potential of an innovative Euglena gracilis- β -glucans, zinc and copper-based formulation inducing oxidative burst in activated neutrophils. Submitted to *Journal of Food Science - Sept022, under major revisions Nov022*) [IF3.167];*
 - IMMUNO-G-MATRIX BETA that was concluded with a scientific publication (**Buonocore D., Seneci A., et al.** *In vitro oxidative burst assay to evaluate the efficacy of Immune-G-matrix™, an innovative yeast- β -glucans, zinc and copper-based formulation. *Nutrafoods* 2016, 15:21-26 DOI 10.17470/NF-016-1004-1);*
 - LACTOFERRIN Lactoferrin (LF) pink powder;
 - Evan plus PR 3116-2;
 - EvanDOL (BIOHEALTH Italia);
 - Sos Pharynx;
 - SOS PHARYNX PLUS;
 - S-Adenosyl-L-Methionine Tosylate Disulfate (SAM-e) stick pack;
 - S-Adenosyl-L-Methionine Tosylate Disulfate (SAM-e) orodispersible tablets;
 - FLOO OFF tablet
- **Principal Investigator** for the research project “Studio *in vitro* per investigare la potenza relativa di 8 differenti estratti da *Serenoa repens* e/o da altre piante nell’inibire l’attività dell’enzima 5 α -reduttasi (isoforme I e II) in un modello di linea cellulare BPH-1 da tessuto prostatico caratterizzato da iperplasia prostatica benigna (BPH)”. The project was funded with 40.000,00 euro (the contract for research

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activities is being renewed) in collaboration and supported by Indena S.p.A.

- Collaboration with React4Life, Genova (IT), for the development of *in vitro* assays able to mimic the physiological conditions present *in vivo* developing advanced *in vitro* models, for which the key parameters such as permeability of substances through membrane barriers and their integrity, can be easily controlled and monitored with a reduction in experimental times and costs. The collaboration with React4Life proposes a new *in vitro* device (MIVO®) that allows to cultivate tissue models or monolayer cells under physiological flow conditions;
- Collaboration with Sil-Co S.r.l. for research and development project of a silicone-based material to be applied as a coating for metal prostheses: *in vitro* biocompatibility study of an optimized microporous Polydimethylsiloxane using different cell culture models and optical imaging technique of confocal microscopy. The project was carried out in collaboration with Physics Department - University of Pavia (Prof. Pietro Galinetto).
- **Principal Investigator** in the project of classification of sun products as skin sensitizer applying the new *in vitro* procedure human Cell Line Activation Test (h-CLAT) according to the OECD Guideline with the contribution of flow cytometry, supported by Complife Italia S.r.l. The project was the topic of a Master degree thesis in Biological Sciences, University of Pavia (supervisor Buonocore Daniela) that was awarded by *Premio « Marcello Spanò », 31° ed. 2017 Società Italiana di Citometria.*
- **Principal Investigator** in the research project involved into the development of IMMUNO-G-MATRIX BETAVIA, in collaboration with Kemin Industries Inc. And Truffini&Reggè Milano. (Buonocore D., et al. Immune-modulating potential of an innovative *Euglena gracilis*- β -glucans, zinc and copper-based formulation inducing oxidative burst in activated neutrophils. Submitted to Journal of Food Science - Sept022, under major revisions Nov022) [IF3.693]
- Attendance as **scientific advisor** in the research project assigned by GMM Farma srl: *in vitro* and *in vivo* safety and efficacy studies of products falling into the food and pharmaceutical category supporting the “Seqota Declaration by Ethiopia’s Minister of Health, Kesete Admasu, committed by Government of Ethiopia to improve nutrition and recognising the role of nutrition to propel sustainable development”. In collaboration with the School of Pharmacy, Addis Abeba University, Ethiopia (Prof. Dawit Teshome Gebregeorgise).
- Participation in the joint research agreement with Kialab S.r.l., Gerenzano-VA (Italy), Arid Zone Research Institute (IRA), Médenine (Tunisia) and University of Tsukuba, Tsukuba Ibaraki (Japan) to study *in vitro* and *in vivo* *Hammada scoparia*, already object of a patent application concerning « melanin production inhibitor and pharmaceutical composition, cosmetic composition and food composition containin the same » Titulaire de l’invention : Laboratoire d’Ecologie Pastorale - Institut des Régions Arides- Médenine (Tunisie) / Université de TSKUBA (Japon). Numéro de publication: JP2013107840.
- Participation in the research project regarding the *in vivo* study aims to evaluate the effects of three formulations of cholecalciferol on circulating levels of 25 hydroxy-vitamin D [25(OH)D3], comparing the serum levels of 25 hydroxy-vitamin D obtained by administering cholecalciferol (VitD3) in two oral formulations, of which an innovative (spray formulation) and a more conventional reference (formulation in drops), against placebo (spray formulation) in collaboration with S.I.I.T. S.r.l.
- Participation in the research project regarding the evaluation of the safety and efficacy of cosmetic products, semi-finished products and natural and/or plant-based substances, in particular micro-algae, in relation to international regulatory standards, in collaboration with Società CR & D S.r.l.
- Collaboration with Giuliani Pharma S.p.A. for the *in vitro* study regarding the biological

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activity of *Ajuga reptans* extract that was concluded with a paper on a trade journal (Marzani B, Benedusi A, Giuliani G, Buonocore D, Marzatico F. *Ajuga reptans* Attività biologica dell'estratto secco titolato in fenilpropanoidi. *Cosmetic Technology* 2009; 12(1): 19-23).

- **Principal Investigator** for the research pharmacological study aims to evaluate *in vitro* the protective effect and mitogen induction of a homeopathic NGF based product against oxidative damage in nerve cell culture entrusted by Vanda Omeopatici S.r.l.
- Participation in the research activity regarding the dosage of flavonoids (Catechin and Epicatechin analyses by HPLC) in cocoa obtained with different methods of roasting cocoa : Cocoa Binder and Petroncini, entrusted by Rizek Cacao S.a.s.
- **Scientific advisor** for Selex Gruppo Commerciale S.p.A., Compagnia Europea Alimenti e Natura (C.E.A.N.) S.r.l., Società Ludovico Martelli S.r.l, Iper Montebello S.p.A., Named S.p.A., EthicSport Italia S.r.l.

ORGANISATIONAL SKILLS

AND COMPETENCES

Participation in research projects admitted to funding on the basis of peer reviewed competitions

Coordination of scientific task forces or working groups in national projects and grants:

EITFood Seedbed incubator program 2022 - A 6-month programme co-funded by the European Union, which aims to transform innovative ideas and research breakthroughs into market-validated business propositions.

Duration: June-November 2022

Amount: 8000,00 euro

Role: attendance as **co-founder** of the business project

Fondazione Cariplo 2018 – Bando di Economia Circolare”Rif. Pratica 2018-1011

Title: PHYVER: Sustainable recycling of vegetable and fruit wastes to recover phytochemicals with nutraceutical and/or cosmeceutical properties.

Publication related to the project in which I am co-author: Doria, E., et al. 2022; *Plants* (Basel), 11(6):816.

Duration: 2019-2021

Amount: 272.600,00 euro

Role: attendance as **Principal Investigator** of the project

FEASR – Programma di Sviluppo Rurale 2014-2020 MISURA 16 “Cooperazione”-SOTTOMISURA 16.2 – “Sostegno a progetti pilota e allo sviluppo di nuovi prodotti, pratiche, processi e tecnologie” OPERAZIONE 16.2.01 – “Progetti pilota e sviluppo di innovazione” (D.d.s. n. 13800 8/11/2017 published on BURL n. 46 15/11/2017)

Title: RECUPERO DI SOSTANZE A FUNZIONE NUTRACEUTICA/COSMECEUTICA DA SCARTI VEGETALI NORMALMENTE DESTINATI ALLO SMALTIMENTO; FASE 2: VERIFICA DELLE PERFORMANCE DELL'ESTRAZIONE EFFETTUATA CON IMPIANTO-PILOTA SPERIMENTALE DEDICATO.

Partnership in *Associazione Temporanea di Scopo* with AOP Unolombardia S.a.c. a r.l.

Publication related to the project in which I am co-author: Doria, E., et al. 2021; *Front. Sustain. Food Syst.* 5:690399

Duration: 2018-2020

Amount: 167.443,86 euro

Role: attendance as **Scientific Investigator** for the Partner University of Pavia

FEASR – Programma di Sviluppo Rurale 2007-2013 MISURA 124 Cooperazione per lo sviluppo di nuovi prodotti, processi e tecnologie nel settore agricolo e alimentare e in quello forestale (D.d.s. n. 4785 05/06/2013 published on BURL n. 24 10/06/2013)

Title: RECUPERO DI SOSTANZE A FUNZIONE NUTRACEUTICA/COSMECEUTICA PROVENIENTI DA UN IMPIANTO ENERGETICAMENTE SOSTENIBILE MEDIANTE L'USO DI SCARTI VEGETALI DI I E IV GAMMA.

Partnership in *Associazione Temporanea di Scopo* with AOP Unolombardia S.a.c. a r.l.

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I hereby give consent for my personal data included in the curriculum vitae in accordance with Art. 13 of the D. Lgs. 196/2003 and Art. 6 paragraph 1a of the Regulation of the European Parliament and of the Council (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/DC (General Data Protection Regulation)

Publication related to the project in which I am co-author: Zhang T. *et al.*, 2017; J Food Nutr Sci 4:1-7.

Duration: 2013-2015

Amount: 170.604,00 euro

Role: attendance **Scientific Investigator** for the Partner University of Pavia

TECHNICAL SKILLS AND COMPETENCES

Practical knowledge of the following techniques: flow cytometry and FACS, immunofluorescence technique, qualitative and quantitative immune-enzymatic techniques, recombinant DNA, cloning, transformation of competent cells, extraction of soluble proteins from Plant Cell Culture, Western Blot, extraction of nuclei, Chromatin Immunoprecipitation ChIP, PCR amplification, transient expression assays in Carrot protoplasts by expression of GUS reporter gene, microbiological control (Challenge test, Total Microbial Count, MIC).

Moreover, she has **work experience** as part of **clinical trials** and ***in vitro* pharmacological studies**, including: **cell cultures** (normal and immortalized, adherent and suspension, bacteria, plant, mammalian cells); ***in vitro* cytotoxicity**; ***in vitro* pharmacological test** to investigate the **potency** of plant extracts contained in drugs; **flow cytometry-based apoptosis** and **oxidative burst** detection; development of ***in vitro* assays** - orobuccal and intestinal **permeation** assay with reconstituted human tissues, skin permeation assay by biomimetic membranes or porcine or human skin biopsies, and drug efficacy studies - able to mimic the real physiological conditions present ***in vivo***, using the innovative **device (MIVO®)** that allows to cultivate reconstructed human tissue model under physiological flow conditions, in order to better predict the response ***in vivo***; **biochemical and immunoenzymatic** assays to evaluate different oxidative stress, inflammatory and immunological markers and total antioxidant capacity of different biological matrices; development of new ***in vitro* skin sensitization test** (human cell line activation test h-CLAT) by flow cytometry and according to the **OECD guidelines**; ***in vitro* study of biocompatibility** with innovative coating materials by optical **imaging** technique, including confocal microscopy. Application of standard and **innovative extraction methods** of bioactive compounds from different plants and vegetables.

OTHER SKILLS AND COMPETENCES

Member of Italian Society Sport Nutrition & Health (SINSeB) (2013)

Member of Italian Society of Muscle Ligaments and Tendons (ISMuLT) (2015-2018)

Elsevier Reviewer for Advances in Medical Sciences (2016)

MDPI Reviewer for Nutrients (2017-2022)

Scientific and Regulatory Advisor for different Companies of pharma, foods, dietetic products, food supplements, medical devices and cosmetics (2015 - 2022)

Supervisor for 50 University thesis in Biological Sciences, Pharmacy, Drug Sciences, Physical Activity and Sports Sciences-University of Pavia (Italy), both for bachelor and master students

FIELDS OF INTEREST

Pharmacognosy, Biochemistry and Human Nutrition. The main purpose of the studies is to evaluate the role of oxidative stress in different backgrounds (disorders, aging, diseases and sports) and to evaluate how it is possible to contrast it using nutraceuticals, drugs, drug substances, or potential drugs or drug substances of natural origin as well as the search for new drugs from natural sources. Moreover, the studies are also aimed at pharmacological and functional aspects of nutraceutical supplements

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SCIENTIFIC PRODUCTION

Participation in national and international congresses: **34**, including personal oral communications 16 - poster presentations 18 – contribution in proceeding 9 (complete list below)

Author of 40 scientific papers in peer-reviewed indexed international journals, including 2 scientific contributes in peer-reviewed guidelines; 1 contribute in book (complete list below).

Key bibliometric figures Scopus (05/12/2022)

Scopus Researcher ID: 35101554900

Years: 2009-2022 (13 years)

Publications (only peer reviewed papers): **40**

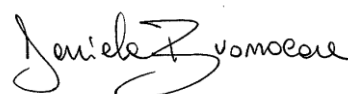
Total number of citations: **543**

Mean citation per publication: **13.575**

h-index: **14**

Author of chapters contribute in books for educational purposes as *Abili si Diventa – Manuale di attività fisica adattata alla mielolesione 2015*, Calzetti Mariucci Editori, Perugia. ISBN 978-88-6028-430-3; *Nutrizione per lo sport in età evolutiva 2015*- Nonsolofitness Editrice. ISBN 978-88-96044-38-4.

Author of articles in technical scientific trade journals as l'Integratore Nutrizionale® CEC Ed., Cosmetic Technology CEC Ed., NutraFoods® ISSN 2240-5291 an international, peer reviewed, on line Journal, Asian Journal of Traditional Medicines ISSN: 1817-4337, International Journal of Food and Nutritional Science Ommega Publishers, Sport & Medicina- Edi-Ermes ISSN 0392-9647- Milano,



Daniela Buonocore

Pavia, 01 March 2023

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