

Short Curriculum Vitae Prof. Marco Cespi

BIBLIOMETRIC INDEX: Total publications: 115; H index = 28; Total citations: 2554; (source Scopus).

SCIENTIFIC ACTIVITY: The research activity of Marco Cespi focused in several aspect of the Pharmaceutical Technology, such as the characterization of rheological and mechanical properties of pharmaceutical materials intended for solid dosage formulations. In addition, a relevant part of the research activity concerned the study of colloidal systems as vehicles for drugs with different features. In the last years, through collaboration with researchers from other sectors, part of the research activity was devoted to the application of technologies and methodologies commonly used in the pharmaceutical area in different fields, such as agricultural, food and pest control. Specifically, the research involved both the optimization of the extraction process of essential oils (or other extracts) than their formulation into proper water-based vehicles to be used in real world application.

ATTRACTION OF FUNDS:

- 2020 -Erasmus+ KA107 –Higher education student and staff mobility between Unicam- Applied Science Private University (Jordan)
- 2018 Erasmus+ Capacity Building in Higher Education - Call for Proposals 2018 - EAC/A05/2017 KA2 – Cooperation for innovation and the exchange of good practices –CapacityBuilding in the field of Higher Education title “Cooperation in Quality Assurance for Pharmacy Education and Training between Europe and Latin America “. Unit component
- 2018 -University Research Projects – FAR (fondo ateneo per la ricerca) 2018, project title: “Silverskin and spent coffee: two by-products of the coffee production chain as promising source of nutraceuticals and ingredients for fertilizing products”: Unit leader
- 2015 Progetto "polisaccaridi ad azione addensante e stabilizzante di sospensioni " Aboca SPA società agricola.
- 2014 Progetto "Le proprietà tecnologiche e applicative di basi emulsionanti per la produzione di prodotti topici (dispositivi medici e cosmetici) certificabili biologici" Aboca SPA società agricola.

INSTITUTIONAL APPOINTMENTS

- Member of the the commissione paritetica of the School of Pharmacy, University of Camerino (from 11/24/2017 until now).

Vice-Director of the School of Specialization in hospital pharmacy of the University of Camerino (from 11/24/2021 until now).

NATIONAL SCIENTIFIC ABILITATION:

- 2017: National Scientific Abilitation as Associate Professor in Pharmaceutical Technology (SSD CHIM/09).
- 2020: National Scientific Abilitation as Full Professor in Pharmaceutical Technology (SSD CHIM/09).

EDUCATION

- 2008: PhD Pharmaceutical Sciences, specialization in Food Chemistry, University of Camerino.
- Master degree in Chimica e Tecnologia Farmaceutiche, Faculty of Pharmacy, University of Camerino final score: 110/110 cum laude.

WORK/ACADEMIC EXPERIENCES

- 2017/untill now: Associate Professor in “Pharmaceutical Technology” (SD CHIM/09, SC 03/D2) at the School of Pharmacy, University of Camerino (Italy).
- 2014/2017: Assistant Professor (temporary position ricercatore universitario a tempo determinato, art.24, comma 3, lettera b, legge 240/2010) in “Pharmaceutical Technology” (SD CHIM/09, SC 03/D2) at the School of Pharmacy, University of Camerino (Italy).
- 2009/2014: Assistant Professor (temporary position) in in “Pharmaceutical Technology” (SD CHIM/09, SC 03/D2) at the School of Pharmacy, University of Camerino (Italy).
- 2004: Term-contract worker (contratto a progetto) on the topic “viscoelasticity and rheological properties of pharmaceutical materials” at the R&D department of Eurand spa (current Aptalis), Pessano con Bornago, (Italy).

SPIN OFF

Co-founder and Vice-president of the startup "Pharma & Food Consulting Srl (PFC).

PATENT

European Patent EP-3513782-A1 (Priority 2018/01/18). Owner: University of Camerino (IT), Pharma & Food Consulting Srl (IT) and INRCA Istituto Naz Riposo E Cura Anziani (IT). Inventors: Bonacucina Giulia, Cespi Marco, Casettari Luca, Torregiani Elisabetta, Logrippo Serena, Palmieri Giovanni Filippo, Perinelli Diego Romano, Ganzetti Roberta, Sestili Matteo. Title: "Gel formulations for oral administration of drugs, in particular to dysphagic patients.

Main scientific publications of the associated investigators

- 1 Abouhosseini Tabari M, Kashani Rad M, Youssefi MR, Maggi F, **Cespi M**, Pavoni L, and Bonacucina G. Development and characterization of monoterpene loaded microemulsions as novel scolicidal agents. *J Biomed Mater Res - Part B Appl Biomater* 110:606–613 (2022).
- 2 Mazzara E, Carletti R, Petrelli R, Mustafa AM, Caprioli G, Fiorini D, Scortichini S, Dall'Acqua S, Sut S, Nuñez S, López V, Zheljazkov VD, Bonacucina G, Maggi F, and **Cespi M**. Green extraction of hemp (*Cannabis sativa* L.) using microwave method for recovery of three valuable fractions (essential oil, phenolic compounds and cannabinoids): a central composite design optimization study. *J Sci Food Agric* (2022).
- 3 Fiorini D, Scortichini S, Bonacucina G, Greco NG, Mazzara E, Petrelli R, Torresi J, Maggi F, and **Cespi M**. Cannabidiol-enriched hemp essential oil obtained by an optimized microwave-assisted extraction using a central composite design. *Ind Crops Prod* 154 (2020).
- 4 Pavoni L, Perinelli DR, Ciacciarelli A, Quassinti L, Bramucci M, Miano A, Casettari L, **Cespi M**, Bonacucina G, and Palmieri GF. Properties and stability of nanoemulsions: How relevant is the type of surfactant? *J Drug Deliv Sci Technol* 58 (2020).
- 5 Pavoni L, Pavela R, **Cespi M**, Bonacucina G, Maggi F, Zeni V, Canale A, Lucchi A, Bruschi F, and Benelli G. Green micro-and nanoemulsions for managing parasites, vectors and pests. *Nanomaterials* 9 (2019).
- 6 Pavela R, Benelli G, Pavoni L, Bonacucina G, **Cespi M**, Cianfaglione K, Bajalan I, Morshedloo MR, Lupidi G, Romano D, Canale A, and Maggi F. Microemulsions for delivery of Apiaceae essential oils—Towards highly effective and eco-friendly mosquito larvicides? *Ind Crops Prod* 129:631–640 (2019).
- 7 Pavoni L, Maggi F, Mancianti F, Nardoni S, Ebani V V, **Cespi M**, Bonacucina G, and Palmieri GF. Microemulsions: An effective encapsulation tool to enhance the antimicrobial activity of selected EOs. *J Drug Deliv Sci Technol* 53 (2019).
- 8 Pavela R, Pavoni L, Bonacucina G, **Cespi M**, Kavallieratos NG, Cappellacci L, Petrelli R, Maggi F, and Benelli G. Rationale for developing novel mosquito larvicides based on isofuranodiene microemulsions. *J Pest Sci* (2004) 92:909–921 (2019).
- 9 Mustafa AM, Mazzara E, Abouelenein D, Angeloni S, Nunez S, Sagratini G, López V, **Cespi M**, Vittori S, Caprioli G, and Maggi F. Optimization of Solvent-Free Microwave-Assisted Hydrodiffusion and Gravity Extraction of *Morus nigra* L. Fruits Maximizing Polyphenols, Sugar Content, and Biological Activities Using Central Composite Design. *Pharmaceuticals* 15 (2022).
- 10 Pavela R, Pavoni L, Bonacucina G, **Cespi M**, Cappellacci L, Petrelli R, Spinozzi E, Aguzzi C, Zeppa L, Ubaldi M, Desneux N, Canale A, Maggi F, and Benelli G. Encapsulation of *Carlina acaulis* essential oil and carlina oxide to develop long-lasting mosquito larvicides: microemulsions versus nanoemulsions. *J Pest Sci* (2004) (2021).
- 11 Spinozzi E, Pavela R, Bonacucina G, Perinelli DR, **Cespi M**, Petrelli R, Cappellacci L, Fiorini D, Scortichini S, Garzoli S, Angeloni C, Freschi M, Hrelia S, Quassinti L, Bramucci M, Lupidi G, Sut S, Dall'Acqua S, Benelli G, Canale A, Drenaggi E, and Maggi F. Spilanthol-rich essential oil obtained by microwave-assisted extraction from *Acmella oleracea* (L.) R.K. Jansen and its nanoemulsion: Insecticidal, cytotoxic and anti-inflammatory activities. *Ind Crops Prod* 172 (2021).
- 12 Kavallieratos NG, Skourti A, Nika EP, Ntalaka CT, Boukouvala MC, Bonacucina G, **Cespi M**, Petrelli R, Cappellacci L, Maggi F, Benelli G, and Canale A. Isofuranodiene-based nanoemulsion:

larvicidal and adulticidal activity against tenebrionid beetles attacking stored wheat. *J Stored Prod Res* 93 (2021).

13 Mazzara E, Scortichini S, Fiorini D, Maggi F, Petrelli R, Cappellacci L, Morgese G, Morshedloo MR, Palmieri GF, and **Cespi M**. A design of experiment (Doe) approach to model the yield and chemical composition of ajowan (*trachyspermum ammi* l.) essential oil obtained by microwave-assisted extraction. *Pharmaceuticals* 14 (2021).

14 Kavallieratos NG, Nika EP, Skourti A, Ntalli N, Boukouvala MC, Ntalaka CT, Maggi F, Rakotosaona R, **Cespi M**, Perinelli DR, Canale A, Bonacucina G, and Benelli G. Developing a *hazomalania voyronii* essential oil nanoemulsion for the eco-friendly management of *tribolium confusum*, *tribolium castaneum* and *tenebrio molitor* larvae and adults on stored wheat. *Molecules* 26 (2021).

15 Pavoni L, Perinelli DR, Bonacucina G, **Cespi M**, and Palmieri GF. An overview of micro-and nanoemulsions as vehicles for essential oils: Formulation, preparation and stability. *Nanomaterials* 10 (2020).

16 Perinelli DR, Palmieri GF, **Cespi M**, and Bonacucina G. Encapsulation of Flavours and Fragrances into Polymeric Capsules and Cyclodextrins Inclusion Complexes: An Update. *Molecules* 25 (2020).

17 **Cespi M**, Quassinti L, Perinelli DR, Bramucci M, Iannarelli R, Papa F, Ricciutelli M, Bonacucina G, Palmieri GF, and Maggi F. Microemulsions enhance the shelf-life and processability of *Smyrniolus olusatrum* L. essential oil. *Flavour Fragr J* 32 (2017).

18 Raffaella C, Casettari L, Fagioli L, **Cespi M**, Bonacucina G, and Baffone W. Activity of essential oil-based microemulsions against *Staphylococcus aureus* biofilms developed on stainless steel surface in different culture media and growth conditions. *Int J Food Microbiol* 241 (2017).

19 Man DKW, Casettari L, **Cespi M**, Bonacucina G, Palmieri GF, Sze SCW, Leung GPH, Lam JKW, and Kwok PCL. Oleanolic acid loaded PEGylated PLA and PLGA nanoparticles with enhanced cytotoxic activity against cancer cells. *Mol Pharm* 12 (2015).

20 **Cespi M**, Bonacucina G, Pucciarelli S, Cocci P, Perinelli DR, Casettari L, Illum L, Palmieri GF, Palermo FA, and Mosconi G. Evaluation of thermosensitive poloxamer 407 gel systems for the sustained release of estradiol in a fish model. *Eur J Pharm Biopharm* 88 (2014).