



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE 4553

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di SCIENZE FARMACEUTICHE DELL'UNIVERSITA' DEGLI STUDI DI MILANO**

Scientist- in - charge: **Prof. Francesco Cilurzo**

[GIUSEPPINA SALZANO]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	SALZANO
Name	GIUSEPPINA
Date of birth	27/05/1984

PRESENT OCCUPATION

Appointment	Structure
Head of Formulation, Research Scientist	Eligo Bioscience

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	Pharmacy	University Federico II Naples (IT)	2007
Specialization			
PhD		University Federico II Naples/ Northeastern University, Boston (USA)	2014
Master	Hospital Pharmacist	University of Turin (IT)	2011
Degree of medical specialization	Hospital Pharmacy	University Federico II Naples (IT)	2010
Degree of European specialization			
Other			



REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date registration	of Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
English	Fluent
French	Fluent

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2011	3rd classified in “Campani Start Cup 2011” for the research project “NANOPHARM”.
2011	Best work by the “Associazione Farmaceutici dell’Industria” during the 51th Simposium AFI, Rimini (IT) June 8-10th 2011
2015	Best poster presentation entitled “ Polymeric micelles co-loaded with anti-survivin siRNA and paclitaxel: A promising strategy to reverse the drug resistance in the treatment of ovarian cancer” at the International Symposium “Advances in nanoparticulate carriers: Applications in diseases and infections” October 19th-21th, 2015. Paris (FR).

TRAINING OR RESEARCH ACTIVITY

<ul style="list-style-type: none">• Leading formulation team at Eligo Bioscience.• Co-supervisor of 2 postdoc, 6 Ph.D students and more than 10 master students (English, Italian and French) during academic research.• Lecture in Technology and Pharmaceutical Legislation, University of Pharmacy Federico II (in Italian) 2010-2012
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PROJECT ACTIVITY

2017- Current	Head of Formulation at Eligo Bioscience, Paris, France (https://eligo.bio/) Project. Formulation development of solid and liquid oral dosage forms for the delivery of cutting-edge biologics for the treatment of orphan diseases. Production and analytical characterization of biologics and pre-formulation studies on lyophilized biologics
2015-2017	Marie Curie Experienced Researcher at Centre National de la Recherche Scientifique (CNRS), University of Paris-Sud, Orsay (France). Project. Design of nano-formulations combining conventional antimicrobial agents with newly synthesized active molecules for the treatment of Mycobacterium Tuberculosis within the ITN-Cyclon Hit European project (http://itn-cyclonhit.eu/).
2014-2015	PostDoctoral Research Associate. Center for Pharmaceutical Biotechnology and Nanomedicine (CPBN), Northeastern University, Boston (MA, USA). Supervisor. Prof. Vladimir P. Torchilin. Project. Principal Investigator of the Pilot Project “Pre-formulation



	development of parenteral formulations combining cutting-edge microRNA/siRNA therapeutics and conventional chemotherapeutic agents for cancer therapy” funded by National Health Institute.
2012-2014	Visiting Research Associate. CPBN, Northeastern University, Boston (MA, USA). Supervisor. Prof. Vladimir P. Torchilin. Project. Doctoral researcher in the frame of the Pilot Project “Anticancer efficacy of siRNA silencing survivin and paclitaxel in combination in resistant ovarian cancer animal model funded by National Health Institute
2006-2011	Doctoral Researcher and Research Fellow. Department of Pharmacy, University of Naples Federico II, Naples (IT). Lead of more than 5 different projects. Mayor projects. Design of self-assembly nanoparticles for the delivery of zoledronic acid for the treatment of solid tumors. Design of theranostic nanoparticles for the selective targeting of bombesin receptors over-expressed by cancer cells.
2008-2010	Internship. Hospital A.O.U. Federico II of Naples (IT). Hospital pharmacy day-to-day operations. Review prescriptions to assure accuracy. Provide information and advice to physicians regarding drug interactions, side effects, dosage and proper medication storage.

PATENTS

Patent
Gref R, Salzano G, Menendez M, et al. Nanoparticules à libération pH dépendante pour l’incorporation de principes actifs, leur procédé de préparation et leurs utilisations thérapeutiques. <i>Under preparation</i>
De Rosa G, Caraglia M, Istituti Fisioterapici Ospitalieri, Tassone P, La Rotonda MI, Abbruzzese Saccardi A, Salzano G, Marra M. Self-assembling nanoparticles for the release of bisphosphonates in the treatment of human cancers. US 9226897 B2. (01.2016). FDA Orphan drug designation of the developed selfassembly nanoparticles containing zoledronic acid for the treatment of glioma. Generic name: Nanoparticles containing Zoledronic acid 29/11/2016
Accardo A, De Rosa G, Morelli G, Pedone C, Salzano G, Tesauo D. Supramolecular aggregates containing amphiphilic monomers, chelating agents and peptides for use for drug delivery and as contrast agents. Patent n. WO 2013046163 A1 September 28th, 2012. Applicant/Proprietor: INVECTORS s.r.l.
Abbruzzese SA, Caraglia M, De Rosa G, Istituti Fisioterapici Ospitalieri, La Rotonda M I, Tassone P, Salzano G, Marra M. Uso dell’acido zoledronico per la preparazione di formulazioni farmaceutiche per il trattamento del cancro della prostata e del mieloma multiplo. Italian Patent Application. Application number: FI2009A000190. January 9th, 2009
Abbruzzese SA, Caraglia M, De Rosa G, Istituti Fisioterapici Ospitalieri, La Rotonda MI, Tassone P, Salzano G, Marra M. Nanoparticelle autoassemblanti per il rilascio di bifosfonati nel trattamento di tumori. Italian Patent Application. Application number: FI2010A000206. January 10th, 2010.
Abbruzzese SA, Caraglia M, De Rosa G, La Rotonda MI, Salzano G, Marra M, Seconda Università Degli Studi di Napoli. Uso di bisfosfonati per la preparazione di formulazioni farmaceutiche per il trattamento dei sintomi associati a dolore neuropatico. Italian Patent Application. Application number: NA2010A000046. September 28th, 2011.

CONGRESSES AND SEMINARS

Date	Title	Place
May 22nd 2016.	Invited speaker at the seminar at ISMO	Center for National Research of Orsay, France.
December 17th 2015.	Invited speaker at the seminar at ISOF	Center for National Research of Bologna, Italy.



October 19-21st 2015	Selected speaker: Title: All-in-one stimuli-sensitive mixed micelles for the simultaneous delivery of doxorubicin and the tumor suppressor miRNA34a for cancer treatment.	International Symposium “Advances in nanoparticulate carriers: Applications in diseases and infections”. Pasteur Institute, Paris (FR).
July 20-24th, 2013	Selected speaker: Self-assembling nanoparticles containing zoledronic acid: a new challenge for the treatment of brain tumors.	40th Annual Meeting of The Controlled Release Society. Honolulu, Hawaii.
September 12-15th, 2010	Selected speaker: Self-assembly nanoparticles containing zoledronic acid: a new strategy for the cancer treatment	11th edition of the Doctoral School for advanced training in technology and pharmaceutical disciplines. Arcavacata di Rende, Cosenza, Italy
November 24-26th, 2010	Selected speaker: Self-assembly nanoparticles for the delivery of zoledronic acid in the treatment of tumors in humans	23th Annual Meeting of the Italian Cell Culture. Nanotechnology and drug delivery. National Cancer Institute, Milan, Italy.
September 12-19th, 2010	Selected speaker: Nanotechnology for the use of bisphosphonates as anti-cancer drugs	10th edition of the Doctoral School for advanced training in technology and pharmaceutical disciplines. Arcavacata di Rende, Cosenza, Italy.
March 6-7th, 2009	Selected speaker: PLGA microspheres for the delivery of siRNA against TNF alpha in the treatment of rheumatoid arthritis	3rd A.It.U.N. ANNUAL MEETING “Pharmaceutical Technology meets Tissue Engineering” University of Pharmacy of Fisciano, Salerno, Italy.

PUBLICATIONS

Books
Aryasomayajula B, Salzano G, Torchilin VP. Multifunctional liposomes. <i>Methods in Molecular Biology</i> . 2017;1530:41-61.
Sriraman SK, Salzano G, Drug Delivery to the CNS. Caplan et al. <i>Primer on Cerebrovascular Diseases</i> , Second Edition.
Salzano G, Torchilin VP. Intracellular delivery of nanoparticles with cell penetrating peptides. <i>Methods in Molecular Biology</i> . 2015; 1324:357-68.

Pre-reviewed research articles and reviews
Machelart A, Salzano G, Li X et al. Intrinsic Antibacterial Activity of Nanoparticles Made of β -Cyclodextrins Potentiates Their Effect as Drug Nanocarriers against Tuberculosis. <i>ACS Nano</i> . 2019 Apr 23;13(4):3992-4007.
Costa-Gouveia J, Pancani E, Jouny S, Machelart A, Delorme V, Salzano G et al. Combination therapy for tuberculosis treatment: pulmonary administration of ethionamide and booster co-loaded nanoparticles. <i>Sci Rep</i> . 2018 May 10;8(1):7596.
Salzano G, Wankar J, Ottani S, Villemagne B, Baulard AR, Willand N, Brodin P, Manet I, Gref R. Cyclodextrin-based nanocarriers containing a synergic drug combination: a potential formulation for pulmonary administration of antitubercular drugs. <i>International Journal of Pharmaceutics</i> . 2017 Oct 15;531(2):577-587.



<p>Wankar J, Salzano G, Pancani E, Benkovics G, Malanga M, Manoli F, Gref R, Fenyvesib E, Manet I. Efficient loading of ethionamide in cyclodextrin-based carriers: enhanced solubility, inhibition of crystallization and improved delivery perspectives. <i>International Journal of Pharmaceutics</i>. 2017 Oct 15;531(2):568-576.</p>
<p>Rodriguez-Ruiz V, Maksimenko A, Salzano G, et al. Positively charged cyclodextrins as effective molecular transporters of active phosphorylated forms of gemcitabine into cancer cells. <i>Sci Rep</i>. 2017 Aug 21;7(1):8353.</p>
<p>Xue Li, Salzano G, Zhang J, Gref R. Spontaneous self-assembly of polymeric nanoparticles in aqueous media: New insights from in situ size analysis and individual particle tracking. <i>Journal of Pharmaceutical Sciences</i>. 2017 Jan;106(1):395-401.</p>
<p>Salzano G, Costa DF, Sarisozen C, Luther E, Dhargalkara PP, Mattheolabakisc G, Torchilin VP. All-in-one dual stimuli-sensitive mixed micelles for the simultaneous delivery of chemotherapeutic drugs and miRNA into tumor cells. <i>Small</i>. 2016 Sep;12(35):4837-4848.</p>
<p>Sriraman SK, Salzano G, Sarisozen C, Torchilin VP. Folic acid and transferrin dual targeted liposomes for the delivery of doxorubicin into tumors. <i>European Journal of Pharmaceutics and Biopharmaceutics</i>. 2016 Aug;105:40-9.</p>
<p>Ierano C, Portella L, Lusa S, Salzano G, D'Alterio C, Napolitano M, Buoncervello M, Macchia D, Spada M, Barbieri A, Luciano A, Barone M, Gabriele L, Caraglia M, Arra C, De Rosa G, Scala S. CXCR4-antagonist Peptide R- liposomes for combined therapy against lung metastasis. <i>Nanoscale</i>.</p>
<p>Kopecka J, Porto S, Lusa S, Gazzano E, Salzano G, Pinzon-Daza ML, Giordano A, Desiderio V, Ghigo D, De Rosa G, Caraglia M. Zoledronic acid-encapsulating self-assembling nanoparticles and doxorubicin: a combinatorial approach to overcome simultaneously chemoresistance and immunoresistance in breast tumors. <i>Oncotarget</i>. 2016 Apr 12;7(15):20753-72.</p>
<p>Kopecka J, Porto S, Lusa S, Gazzano E, Salzano G, Giordano A, Desiderio V, Ghigo D, Caraglia M, De Rosa G, Riganti C. Self-assembling nanoparticles encapsulating zoledronic acid revert multidrug resistance in cancer cells. <i>Oncotarget</i>. 2015 Oct 13;6(31):31461-78.</p>
<p>Salzano G, Zappavigna S, Luce A, D'Onofrio N, Balestrieri M, Grimaldi A, Lusa S, Ingrosso D, Porru M, Leonetti C, Caraglia M, De Rosa G. Transferrin-conjugated self-assembled nanoparticles incorporating zoledronic acid as a potent tool to inhibit glioblastoma cell growth. <i>Journal of Biomedical Nanotechnology</i>. 2016 Apr;12(4):811-30.</p>
<p>Salzano G, Navarro G, Trivedi MS, De Rosa G, Torchilin VP. Multifunctional polymeric micelles co-loaded with anti-survivin siRNA and paclitaxel overcome drug resistance in an animal model of ovarian cancer. <i>Molecular Cancer Therapeutics</i>. 2015 Apr;14(4):1075-84.</p>
<p>Porru M, Zappavigna S, Salzano G, Luce A, Stoppacciaro A, Balestrieri ML, Artuso S, Lusa S, De Rosa G, Leonetti C, Caraglia M. Medical treatment of orthotopic glioblastoma with transferrin-conjugated nanoparticles encapsulating zoledronic acid. <i>Oncotarget</i>. 2014 Nov 15;5(21):10446-59.</p>
<p>Salzano G, Riehle R, Navarro G, Perche F, De Rosa G, Torchilin VP. Polymeric micelles containing reversibly phospholipid-modified anti-survivin siRNA: A promising strategy to overcome drug resistance in cancer. <i>Cancer Letter</i>. 2014 Feb 28;343(2):224-31.</p>
<p>Kopecka J*, Salzano G*, Campia I, Lusa S, Ghigo D, De Rosa G, Riganti C. Insights in the chemical components of liposomes responsible for P-glycoprotein inhibition. <i>Nanomedicine</i>. 2014 Jan;10(1):77-87.</p>
<p>Caraglia M, Luongo L, Salzano G, Zappavigna S, Marra M, Guida, F, Lusa S, Giordano C, de Novellis V, Rossi F, Abbruzzese Saccardi A, De Rosa G, Maione S. Stealth liposomes encapsulating zoledronic acid: a new opportunity to treat neuropathic pain. <i>Molecular Pharmaceutics</i>. 2013 Mar 4;10(3):1111-8.</p>
<p>Accardo A, Mansi R, Salzano G, Morisco A, Aurilio M, Parisi A, Maione F, Cicala C, Ziaco B, Tesauro D, Aloj L, De Rosa G, Morelli G. Bombesin peptide antagonist for target-selective delivery of liposomal doxorubicin on cancer cells. <i>Journal of Drug Target</i>. 2012 Nov 21.</p>
<p>Présumey J*, Salzano G*, Courties G, Shires M, Ponchel F, Jorgensen C, Apparailly F, De Rosa G. PLGA microspheres encapsulating siRNA anti-TNFalpha: Efficient RNAi-mediated treatment of arthritic joints. <i>European Journal of Pharmaceutics and Biopharmaceutics</i>. 2012 Nov;82(3):457-64.</p>



Accardo A*, Salzano G*, Morisco A, Aurilio M, Parisi A, Maione F, Cicala C, Tesauro D, Aloj L, De Rosa G, Morelli G. Peptide-modified liposomes for selective targeting of bombesin receptors overexpressed by cancer cells: a potential theranostic agent. <i>International Journal of Nanomedicine</i> . 2012;7:2007-17.
Marra M.*, Salzano G*, Leonetti C., Porru M., Franco R., Zappavigna S., Liguori G., Botti G., Chieffi P., Lamberti M., Vitale G., Abbruzzese A., La Rotonda M.I., De Rosa G., Caraglia M. New self-assembly nanoparticles and stealth liposomes for the delivery of zoledronic acid: a comparative study. <i>Biotechnology Advanced</i> . 2011 Jan-Feb;30(1):302-9.
Marra M*, Salzano G*, Leonetti C., Tassone P., Scarsella M., Zappavigna S., Calimeri T., Franco R., Liguori G., La Rotonda M.I., Abbruzzese A., Tagliaferri P., Caraglia M., De Rosa G. Nanotechnologies to use bisphosphonates as potent anticancer agents: the case of zoledronic acid encapsulated into liposomes. <i>Nanomedicine</i> . 2011 Dec;7(6):955-64.
Salzano G, Marra M, Zappavigna S, Porru M, Abbruzzese A, La Rotonda MI, Leonetti C, Caraglia M, De Rosa G. Novel self-assembly nanoparticles for the delivery of bisphosphonates into solid tumors. <i>International Journal of Pharmaceutics</i> . 2011 Jan 17;403(1-2):292-7.
Salzano G, Marra M, Leonetti C, Porru M, Zappavigna S, Abbruzzese A, La Rotonda MI, Caraglia M, De Rosa G. Nanotechnology to use zoledronic acid as a potent antitumoral agent. <i>Journal of Drug Delivery Science and Technology</i> . ISSN 1773-2247. 2011. vol. 21, no3, pp. 283-284.
Sarisozen C, Salzano G, Torchilin VP. Lipid-based siRNA Delivery Systems: Challenges, Promises and Solutions Along the Long Journey. <i>Curr Pharm Biotechnol</i> . 2016;17(8):728-40.
Sarisozen C, Salzano G, Torchilin VP. Recent Advances in siRNA Delivery. <i>Biomolecular Concepts</i> . 2015 Dec 1; 6(5-6):321-41
Salzano G, Costa DP, Torchilin VP. siRNA delivery by stimuli-sensitive nanocarriers. <i>Current Pharmaceutical Design</i> . 2015; 21(31):4566-73.
De Rosa G, Salzano G. PLGA microspheres encapsulating siRNA. <i>Methods in Molecular Biology</i> . 2015; 1218:43-51.
De Rosa G, Misso G, Salzano G, Caraglia M. Bisphosphonates and cancer: what opportunities from nanotechnology? <i>Journal of Drug Delivery</i> . 2013; 2013:637976.
De Rosa G, Salzano G, Caraglia M, Abbruzzese Saccardi A. Nanotechnologies: a strategy to overcome blood-brain barrier. <i>Current Drug Metabolism</i> . 2012 Jan;13(1):61-9.
Caraglia M, De Rosa G, Salzano G, Santini D, Lamberti M, Lombardi A, Abbruzzese A, Addeo R. Nanotech revolution for the anti-cancer drug delivery through blood-brainbarrier. <i>Current Cancer Drug Targets</i> . 2012 Mar;12(3):186-96.
Caraglia M, Marra M, Misso G, Lamberti M, Salzano G, De Rosa G, Abbruzzese A. Tumour-Specific Uptake of Anti-Cancer Drugs: The Future is Here. <i>Current Drug Metabolism</i> . 2012 Jan;13(1):4-21. (

Congress proceedings
Luther E, Salzano G, Sriraman SK, Costa D, Torchilin VP. Comparison of the effect of pharmaceutical compounds on tumor cells in 2D and 3D in vitro models using labelfree, quantitative 4 dimensional holographic imaging. Conference: AACR-NCI-EORTC Molecular Targets and Cancer Therapeutics, At Boston, MA.
Presumey J, Courties G, Salzano G, De Rosa G, Apparailly F. PLGA Microspheres for Long-Term Delivery of siRNA Against TNF in the Treatment of Rheumatoid Arthritis. Conference: 8th Annual Meeting of the French-Society-of-Cell-and-Gene- Therapy, Volume: 20.

OTHER INFORMATION

SKILLS:



Synthesis of biologics, bio-conjugates and prodrugs, design of drug-delivery systems including polymeric granules, lipid nanoparticles, polymeric/lipidic micelles, poly-lactic-co-glycolic nano/microparticles, metallic-organic framework nanoparticles, cyclodextrin polymers, hydrogels for topic and oral delivery, crème and gel.

DoE for freeze-drying and spray-drying processes for different types of drug substances and drug products.

Analytical and microscopy techniques. HPLC, Mass Spectroscopy, Size/Zeta analysis, NTA, Confocal Fluorescence Microscopy, Time Lapse Microscopy analysis.

Molecular and cellular biology techniques. Immunohistochemistry, Flow Cytometry, RT-PCR, ELISA, Cell culture (cell uptake studies, cell viability assays, gene expression/silencing studies), animal handling (dosing/surgery), bio-distribution and efficacy studies.

Soft skills. Project management, international and interdisciplinary team management, budget management and dead-line respect, networking, writing publications, projects and proposals for platforms, patent applications, effective presentation and reports on a regular basis, designing and planning of experimental protocols, problem solving, scientific communication, scientific vulgarization (festival of science, presentation for general public).

Language skills: Italian (native), English (proficient), French (proficient)

Software skills: Proficient at data analyzing software and scientific databases viz. Notion, Benchling, Wrike, Graph Pad Prism 5.0, Image J, Air Table, ChemDraw, BLAST, Pubmed, ISI Web of Knowledge, EndNote, MS Office.

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: Paris, 06/04/2020

SIGNATURE