

EUROPEAN
CURRICULUM VITAE
FORMAT



PERSONAL INFORMATION

Name	BOTTINI MASSIMO
Address	VIA MONTPELLIER 1, 00133 ROME ITALY
Telephone	+39 06 72596390
E-mail	massimo.bottini@uniroma2.it
Nationality	Italian
Date of Birth	November 24th, 1974
Gender	Male

WORK EXPERIENCE

- Dates (from-to) FROM 01/2023 TO PRESENT
- Name of the employer Graduate School of Biomedical Sciences, Sanford Burnham Prebys (La Jolla, USA)
- Occupation or position held **Affiliate Faculty**
- Dates (from-to) FROM 09/2015 TO PRESENT
- Name of the employer Department of Experimental Medicine, University of Rome Tor Vergata (Rome, Italy)
- Occupation or position held **Associate Professor**
- Dates (from-to) FROM 05/2016 TO 12/2022
- Name of the employer Sanford Children's Health Research Center, Sanford Burnham Prebys (La Jolla, USA)
- Occupation or position held **Affiliate Associate Professor**
- Dates (from-to) FROM 11/2017 TO 10/2019
- Name of the employer Center for Excellence in Nanoscience, Chinese Academy of Sciences, Beijing, China
- Occupation or position held **Visiting Professor**
- Dates (from-to) FROM 01/2010 TO 08/2015
- Name of the employer Department of Experimental Medicine, University of Rome Tor Vergata (Rome, Italy)
- Occupation or position held **Assistant Professor**
- Dates (from-to) FROM 10/2012 TO 04/2016
- Name of the employer Infectious and Inflammatory Diseases Research Center, Sanford Burnham Prebys (La Jolla, USA)
- Occupation or position held **Adjunct Assistant Professor**
- Dates (from-to) FROM 09/2006 TO 12/2012
- Name of the employer NanoTumor Center (Moore's Cancer Center), University of California San Diego, La Jolla, CA, USA
- Occupation or position held **Adjunct Investigator**

EDUCATION AND TRAINING

- Dates (from - to)
- Name and type of organisation providing education and training
 - Principal subjects covered
- Title of qualification awarded

FROM 09/2007 TO 2012

Infectious and Inflammatory Diseases Research Center, Sanford Burnham Prebys (La Jolla, USA)

Nanomedicine, biochemistry, microscopy, spectroscopy

Staff scientist

- Dates (from - to)
- Name and type of organisation providing education and training
 - Principal subjects covered
- Title of qualification awarded

FROM 01/2005 TO 12/2006

Infectious and Inflammatory Diseases Research Center, Sanford Burnham Prebys (La Jolla, USA)

Nanomedicine, microscopy, spectroscopy

Post-doctoral fellow

- Dates (from - to)
- Name and type of organisation providing education and training
 - Principal subjects covered
- Title of qualification awarded

FROM 04/2006 TO 05/2006

National Institute for Research and Safety (INRS, Paris, France)

Nanotoxicology

Advanced training course on nanoparticles

- Dates (from - to)
- Name and type of organisation providing education and training
 - Principal subjects covered
- Title of qualification awarded

FROM 01/2001 TO 12/2004

School of Electronic Engineering, University of Rome Tor Vergata (Rome, Italy)

Encapsulation of metallo-proteins into sol-gel derived matrices: properties and applications.

PhD, Sensors and Learning Systems

- Dates (from - to)
- Name and type of organisation providing education and training
 - Principal subjects covered
- Title of qualification awarded

FROM 01/2001 TO 09/2002

Infectious and Inflammatory Diseases Research Center, Sanford Burnham Prebys (La Jolla, USA)

Generation of innovative nanocomposite materials of biological and medical relevance.

Visiting PhD student

- Dates (from - to)
- Name and type of organisation providing education and training
 - Principal subjects covered
- Title of qualification awarded

FROM 09/1992 TO 07/2000

Infectious and Inflammatory Diseases Research Center, Sanford Burnham Prebys (La Jolla, USA)

Fabrication of a sensor for the detection of gamma globulins.

Master of Science, Electronic Engineering -Summa cum laude-

PERSONAL SKILLS

NATIVE LANGUAGE

ITALIAN

OTHER LANGUAGES

- Reading skills
- Writing skills
- Oral expression skills

ENGLISH

EXCELLENT

EXCELLENT

EXCELLENT

RESEARCH LINES

Development of novel stimuli-sensitive nanoparticles for diagnostic and therapeutic use

Prof. Bottini has been working on the synthesis and characterization of diagnostic therapeutic nanoparticles for more than 10 years. During this time, he has also pioneered novel biochemical studies that led to the validation of the paradigm that the corona of soluble proteins adsorbed onto the surface of synthetic nanoparticles entering the body modulates the nanoparticle

therapeutic, pharmacokinetic and biodegradation profiles. These studies have been funded by several agencies. In 2009, Prof. Bottini was a recipient of a grant from the Juvenile Diabetes Research Foundation (JDRF) to develop a nanosystem for the cure of diabetes. In 2011 and 2012, he was awarded with the John Vaughan Scholar of the Arthritis National Research Foundation (ANRF) to develop nanoparticles aimed at delivering drugs to arthritic joints and assess their local biochemical interactions. These projects have been developed in collaboration with international scientists, including Prof. Nunzio Bottini (UCSD) and Prof. Bengt Fadeel (Karolinska Institutet, Stockholm, Sweden). In 2017, Prof. Bottini was awarded with a fellowship from the *Chinese Academy of Sciences* President's International Fellowship Initiative to visit the laboratories of Prof. Xing-Jie Liang at the *Chinese Academy of Sciences*. During his visit he was involved in projects aimed at the development of novel nanoparticles for the controlled release of therapeutic cargoes in tumours and inflamed joints. Due to his extensive experience in the interactions of nanoparticles with soluble proteins, Prof. Bottini has been involved in the grant "Biomaterial risk management" (BIORIMA), funded by the European Commission in 2017, as a participant with a budget, to assess how the adsorption of proteins from the extracellular milieu affects the biological functions of nanoparticles of clinical interest. Finally, Prof. Bottini was awarded with grants from the University of Rome Tor Vergata in 2018 and 2022 to develop novel nanoparticles for the treatment of osteoarthritis and COVID-19, respectively.

This research line is in collaboration with:

- Prof. Nunzio Bottini (University of California San Diego, La Jolla, USA)
- Prof. Xing-Jie Liang (Chinese Academy of Science, Beijing, China)
- Prof. Yongming Chen (Sun Yat-sen University, Guangzhou, China)
- Prof. Xun Sun (Sichuan University, Chengdu, China)
- Prof. Bengt Fadeel (Karolinska Institutet, Stockholm, Sweden)

Assessment of the biological, biochemical, and biophysical properties of matrix vesicles

Since 2013, Prof. Bottini has been investigating the enzymes driving the biogenesis and biological functions of matrix vesicles by using novel spectroscopic and microscopic methods. Since 2016, Prof. Bottini has also been actively participating to studies aimed at clarifying the biochemical mechanisms driving the matrix vesicles' biological functions by using proteoliposomes and lipid monolayers as matrix vesicle biomimetics. To date, these studies have led to several discoveries. First, they led to the discovery that the insertion and catalytic activity of tissue non-specific alkaline phosphatase (TNAP) in matrix vesicle-biomimetics is strongly affected by the lipid microenvironment. Prof. Bottini was recently awarded with a fellowship from the Print USP/CAPES Programa de "Professor Visitante do Exterior" to visit research laboratories at the USP in 2022 for one month and work on a project aimed at assessing the biochemical mechanisms mediating the matrix vesicle biogenesis.

This research line is in collaboration with:

- Prof. José Luis Millán (SBP Medical Discovery Institute, La Jolla, USA)
- Prof. Rene Buchet (University of Lyon 1, Lyon, France)
- Prof. Pietro Ciancaglini (Universidade de São Paulo, Ribeirão Preto, Brazil)
- Prof. Sławomir Pikula (Nencki Institute of Experimental Biology, Warsaw, Poland)
- Prof. Sadik Esener (OHSU Knight Cancer Institute, Portland, USA)

SOCIAL AND ORGANIZATIONAL SKILLS

- He has been teaching nanomedicine and biochemistry topics at the University of Rome Tor Vergata for a total of 14 credits
- He has been teaching nanomedicine topics at foreign institutions for a total of 6 credits
- He has been Invited to deliver 10 seminars at national and international institutions
- He has attracted funds from national and international institutions
- He has been awarded by international institutions
- He has been participating to the activities of international journals as editor and reviewer
- He has authored 74 manuscripts on peer-reviewed international journals
- He has been Invited to deliver talks to 13 national and international conferences
- He has organized 7 international conferences

TEACHING AT THE UNIVERSITY OF ROME TOR VERGATA

- Dates (from-to)
- Name of the employer
- Subject

FROM 2022 TO PRESENT
 School of medical Engineering
Laboratory of nanomedicine

<ul style="list-style-type: none"> • Credits 	6
<ul style="list-style-type: none"> • Dates (from-to) 	FROM 2017 TO PRESENT
<ul style="list-style-type: none"> • Name of the employer 	School of Medicine
<ul style="list-style-type: none"> • Subject 	Biochemistry
<ul style="list-style-type: none"> • Credits 	3
<ul style="list-style-type: none"> • Dates (from-to) 	FROM 2015 TO PRESENT
<ul style="list-style-type: none"> • Name of the employer 	School of medical Engineering
<ul style="list-style-type: none"> • Subject 	Fundamentals of nanomedicine
<ul style="list-style-type: none"> • Credits 	6
<ul style="list-style-type: none"> • Dates (from-to) 	FROM 2015 TO PRESENT
<ul style="list-style-type: none"> • Name of the employer 	1 st level Master in "Nutrition and Cosmetics"
<ul style="list-style-type: none"> • Subject 	Introduction to nanomedicine
<ul style="list-style-type: none"> • Credits 	1
TEACHING AT FOREIGN INSTITUTIONS	
<ul style="list-style-type: none"> • Dates (from-to) 	FROM 2019 TO PRESENT
<ul style="list-style-type: none"> • Name of the employer 	Faculdade de Medicina, Universidade de São Paulo (Ribeirão Preto, Brazil)
<ul style="list-style-type: none"> • Subject 	Biochemical roles of extracellular vesicles involved in the bone mineralization (Post-graduation Course number RBQ5785)
<ul style="list-style-type: none"> • Credits 	2
<ul style="list-style-type: none"> • Dates (from-to) 	FROM 2019 TO PRESENT
<ul style="list-style-type: none"> • Name of the employer 	Faculdade de Filosofia, Ciências e Letras, Universidade de São Paulo (Ribeirão Preto, Brazil)
<ul style="list-style-type: none"> • Subject 	Biochemical and biophysical properties of cellular vesicles involved in biomineralization (Post-graduation Course number 5935975)
<ul style="list-style-type: none"> • Credits 	2
<ul style="list-style-type: none"> • Dates (from-to) 	FROM 2018 TO 2019
<ul style="list-style-type: none"> • Name of the employer 	University of the Chinese Academy of Sciences (Beijing, China)
<ul style="list-style-type: none"> • Subject 	Principles of biochemistry nanomedicine (Graduation Course number 261M7004H)
<ul style="list-style-type: none"> • Credits 	1
<ul style="list-style-type: none"> • Dates (from-to) 	FROM 2017 TO PRESENT
<ul style="list-style-type: none"> • Name of the employer 	Faculdade de Filosofia, Ciências e Letras, Universidade de São Paulo (Ribeirão Preto, Brazil)
<ul style="list-style-type: none"> • Subject 	Biochemical and biophysical properties of nanoparticles used as diagnostic and therapeutic tools (Post-graduation Course number 5935967)
<ul style="list-style-type: none"> • Credits 	1
INVITED SEMINARS	
<ul style="list-style-type: none"> • Date 	09/2021
<ul style="list-style-type: none"> • Name of the institution 	University of L'Aquila (L'Aquila, Italy)
<ul style="list-style-type: none"> • Title 	How to build a bone: from PHOSPHO1 to the nucleational core and beyond
<ul style="list-style-type: none"> • Date 	04/2021
<ul style="list-style-type: none"> • Name of the institution 	Universidade de São Paulo (Ribeirão Preto, Brazil)
<ul style="list-style-type: none"> • Title 	Role of the PHOSPHO1 in matrix vesicle-driven biomineralization
<ul style="list-style-type: none"> • Date 	03/2021
<ul style="list-style-type: none"> • Name of the institution 	Sanford Burnham Prebys (La Jolla, USA)
<ul style="list-style-type: none"> • Title 	Biochemical and biophysical properties of matrix vesicles

- Date 09/2019
- Name of the institution Chinese Academy of Sciences (Beijing, China)
- Title Biophysical and biochemical properties of extracellular vesicles driving physiological and pathological biomineralization

- Date 09/2019
- Name of the institution Sun Yet-sen University (Guangzhou, China)
- Title Biochemistry meets nanomedicine: The coronation of nanocarriers by plasma proteins

- Date 04/2019
- Name of the institution Universidade de São Paulo (Ribeirão Preto, Brazil)
- Title Matrix vesicles: From biochemistry to nanomedicine and back

- Date 09/2017
- Name of the institution Karolinska Institutet (Stockholm, Sweden)
- Title Targeted nanoparticles: From design to therapy

- Date 04/2017
- Name of the institution University of Pavia (Pavia, Italy)
- Title Introduction to nanomedicine

- Date 04/2017
- Name of the institution University Lyon 1 (Villeurbanne, France)
- Title Extracellular vesicles in joint disease diagnosis and therapy

- Date 06/2016
- Name of the institution Universidade de São Paulo (Ribeirão Preto, Brazil)
- Title Multifunctional nanoparticles: an emerging platform for osteoarthritis therapy

RESEARCH SUPPORT

- Dates (from-to) FROM 01/2022 TO PRESENT
- Agency **University of Rome Tor Vergata (Rome, Italy)**
- Role PI
- Project Biocompatibility assessment of an anti-SARS-CoV-2 nanodrug
- Amount € 8333

- Dates (from-to) FROM 11/2017 TO 01/2022
- Agency **European Commission (H2020)**
- Role Team member with budget
- Project Biomaterial risk management (BIORIMA)
- Amount € 46000

- Dates (from-to) FROM 03/2018 TO 12/2021
- Agency **University of Rome Tor Vergata (Rome, Italy)**
- Role PI
- Project Development of a chondrocyte-targeted nanovector for the local cure of osteoarthritis
- Amount € 21000

- Dates (from-to) FROM 08/2011 TO 07/2013
- Agency **Arthritis National Research Foundation**
- Role PI
- Project Nanosystem for targeting T_{reg} in vivo
- Amount € 150000

- Dates (from-to) FROM 09/2009 TO 08/2010
- Agency **Juvenile Diabetes Research Foundation**
- Role PI
- Project Nanosystem for T cell specific knock-down of PTPN22
- Amount € 109000

AWARDS

- Date 2020
- Agency Universidade de São Paulo (Ribeirão Preto, Brazil)
- Award title **Print USP/CAPES Programa de “Professor Visitante do Exterior” Fellowship**

- Date 2016
- Agency Chinese Academy of Sciences (Beijing, China)
- Award title **President’s International Fellowship Initiative for Visiting Scientists**

- Date 2016
- Agency Arthritis National Research Foundation (USA)
- Award title **Travel grant**

- Date 2015
- Agency Arthritis National Research Foundation (USA)
- Award title **Travel grant**

- Date 2012
- Agency Arthritis National Research Foundation (USA)
- Award title **The John Vaughan Scholar**

- Date 2011
- Agency Arthritis National Research Foundation (USA)
- Award title **The John Vaughan Scholar**

MEMBERSHIPS

- Dates (from-to) FROM 01/2003 TO PRESENT
- Agency **American Chemical Society**

- Dates (from-to) FROM 01/2021 TO PRESENT
- Agency **International Society for Extracellular Vesicles**

EDITORIAL ACTIVITY

- Dates (from-to) FROM 01/2021 TO PRESENT
- Journal **Journal of Extracellular Biology**
- Role Associate Editor

- Dates (from-to) FROM 01/2010 TO PRESENT
- Journal **Journal of Biomedical Nanotechnology**
- Role Associate Editor

- Dates (from-to) FROM 01/2004 TO PRESENT
- Journal ACS Nano, Nature Review Rheumatology, Nano Today, Bioactive Materials, International Journal of Molecular Sciences, Advanced Functional Materials, Biomacromolecules, Carbon, Chemical Research Toxicology, Langmuir, Nanomedicine, Journal of the American Chemical Society, Journal of Biomedical Nanotechnology, Toxicology Letters.
- Role Reviewer

- 1 Nogueira LFB, Cruz MAE, de Melo MT, Maniglia BC, Caroleo F, Paolesse R, Lopes HB, Beloti MM, Ciancaglini P, Ramos AP, Bottini M. Collagen/k-Carrageenan-Based Scaffolds as Biomimetic Constructs for In Vitro Bone Mineralization Studies. *Biomacromolecules*. 2023; 24(3): 1258-1266.
- 2 Sebinelli HG, Andriulli LHS, Favarin BZ, Cruz MAE, Bolean M, Fiore M, Chieffo C, Magne D, Magrini A, Ramos AP, Millán JL, Mebarek S, Buchet R, Bottini M, Ciancaglini P. Shedding Light on the Role of Na,K-ATPase as a Phosphatase during Matrix-Vesicle-Mediated Mineralization. *Int J Mol Sci*. 2022; 23(23): 15072.
- 3 Nogueira LFB, Cruz MAE, Tovani CB, Lopes HB, Beloti MM, Ciancaglini P, Bottini M, Ramos AP. Curcumin-loaded carrageenan nanoparticles: Fabrication, characterization, and assessment of the effects on osteoblasts mineralization. *Colloids Surf B Biointerfaces*. 2022; 217: 112622.
- 4 Veschi EA, Bolean M, da Silva Andriulli LH, Sebinelli HG, Strzelecka-Kiliszek A, Bandorowicz-Pikula J, Pikula S, Granjon T, Mebarek S, Magne D, Millán JL, Ramos AP, Buchet R, Bottini M, Ciancaglini P. Mineralization Profile of Annexin A6-Harboring Proteoliposomes: Shedding Light on the Role of Annexin A6 on Matrix Vesicle-Mediated Mineralization. *Int J Mol Sci*. 2022; 23(16): 8945.
- 5 Pasquarelli A, Andriulli LHS, Bolean M, Reis Ferreira C, Cruz MAE, de Oliveira FA, Ramos AP, Millán JL, Bottini M, Ciancaglini P. Ultrasensitive Diamond Microelectrode Application in the Detection of Ca²⁺ Transport by AnnexinA5-Containing Nanostructured Liposomes. *Biosensors (Basel)*. 2022; 12(7): 525.
- 6 Nogueira LFB, Eufrásio Cruz MA, Aguilar GJ, Tapia-Blácido DR, da Silva Ferreira ME, Maniglia BC, Bottini M, Ciancaglini P, Ramos AP. Synthesis of Antibacterial Hybrid Hydroxyapatite/Collagen/Polysaccharide Bioactive Membranes and Their Effect on Osteoblast Culture. *Int J Mol Sci*. 2022; 23(13): 7277.
- 7 Padín-González E, Lancaster P, Bottini M, Gasco P, Tran L, Fadeel B, Wilkins T, Monopoli MP. Understanding the Role and Impact of Poly (Ethylene Glycol) (PEG) on Nanoparticle Formulation: Implications for COVID-19 Vaccines. *Front Bioeng Biotechnol*. 2022; 10: 882363.
- 8 Ramos A.P. Sebinelli H.G., Ciancaglini P., Rosato N., Mebarek S., Buchet R., Millan J.L., Bottini M. The functional role of soluble proteins acquired by extracellular vesicles, *Journal of Extracellular Biology*, 2022; 1: e34.
- 9 Tomazela L., Cruz M.A.E, Nascimento L.A., Fagundes C.C., da Veiga M.A.M.S., Zamarioli A., Bottini M, Ciancaglini P., Brassesco M.S., Engel E.E., Ramos A.P. Fabrication and characterization of a bioactive polymethylmethacrylate-based porous cement loaded with strontium/calcium apatite nanoparticles. *Journal of Biomedical Material Research – Part A*. 2022; 110(4): 812-826
- 10 Nogueira L.F.B., Maniglia B.C., Buchet R., Millán J.L., Ciancaglini P., Bottini M, Ramos A.P. Three-dimensional cell-laden collagen scaffolds: From biochemistry to bone bioengineering. *Journal of Biomedical Material Research – Part B Applied Biomaterials*. 2022; 110(4): 967-983
- 11 Liu X., Liang H., Yan Y., Wu J., Bottini M, Liu L., Chen Y. The protein corona modulates the inflammation inhibition by cationic nanoparticles via cell-free DNA scavenging. *Bioactive Materials*. 2022;13:249-259
- 12 Ramos A.P., Bolean M., Cruz M.A.E., Andriulli L.H.S., Nogueira L.F.B., Sebinelli H.G, Dos Santos A.L.N., Favarin B.Z., Macedo J.M.M., Veschi E.A., Ferreira C.R., Millán J.L., Bottini M, Ciancaglini P. Langmuir monolayers and proteoliposomes as models of matrix vesicles involved in biomineralization. *Biophysical Reviews* 2021; 13(6): 893-895
- 13 Chen X., Du G., Bai S., Dijkstra L., Li C., Hou Y., Zhang Y., Zhang Z., Gong T., Fu Y., Bottini M, Sun X. Restoring immunological tolerance in established experimental arthritis by combinatorial citrullinated peptides and immunomodulatory signals. *Nano Today* 2021; 41: 101307
- 14 Cruz M.A.E., Ferreira C.R., Tovani C.B., de Oliveira F.A., Bolean M., Caseli L, Mebarek S., Millán J.L., Buchet R., Bottini M, Ciancaglini P., Ramos A.P. Phosphatidylserine controls calcium phosphate nucleation and growth on lipid monolayers: A physicochemical understanding of matrix vesicle-driven biomineralization. *Journal of Structural Biology*. 2020; 212(2): 107607
- 15 Favarin B.Z., Bolean M., Ramos A.P., Magrini A., Rosato N., Millán JL., Bottini M, Costa-Filho A.J, Ciancaglini P. Lipid composition modulates ATP hydrolysis and calcium phosphate mineral propagation by TNAP-harboring proteoliposomes. *Archives of Biochemistry and Biophysics*. 2020; 691: 108482
- 16 Tovani C.B., Ferreira C.R., Simão A.M.S., Bolean M., Coppeta L., Rosato N., Bottini M., Ciancaglini P., Ramos A.P. Characterization of the in vitro osteogenic response to submicron TiO₂ particles of varying structure and crystallinity. *ACS Omega*. 2020; 5(27): 16491-16501
- 17 Amadeu de Oliveira F., Narisawa S., Bottini M, Millán J.L. Visualization of mineral-targeted alkaline phosphatase binding to sites of calcification in vivo. *Journal of Bone and Mineral Research*. 2020; 35(9):1765-1771

- 18 Bolean M., Izzi B., van Kerckhoven S., Bottini M., Ramos A.P., Millán J.L., Hoylaerts M.F., Ciancaglini P. Matrix vesicle biomimetics harboring Annexin A5 and alkaline phosphatase bind to the native collagen matrix produced by mineralizing vascular smooth muscle cells. *Biochimica et Biophysica Acta General Subjects*. 2020; 1864(8): 129629
- 19 Veschi E.A., Bolean M., Strzelecka-Kiliszek A., Bandorowicz-Pikula J., Pikula S., Granjon T., Mebarek S., Magne D., Ramos A.P., Rosato N., Millán J.L., Buchet R., Bottini M., Ciancaglini P. Localization of Annexin A6 in matrix vesicles during physiological mineralization. *International Journal of Molecular Sciences*. 2020; 21(4): 1367
- 20 Wu J., Liang H., Li Y., Bottini M., Chen Y., Liu L. Cationic block copolymer nanoparticles with tunable DNA affinity for treating rheumatoid arthritis. *Advanced Functional Materials*. 2020; 30(27): 2000391
- 21 Derradi R., Bolean M., Simão A.M.S., Caseli L., Millán J.L., Bottini M., Ciancaglini P., Ramos A.P. Cholesterol regulates the incorporation and catalytic activity of tissue-nonspecific alkaline phosphatase in DPPC monolayers. *Langmuir*. 2019; 35(47): 15232-15241
- 22 Simão A.M.S., Bolean M., Favarin B.Z., Veschi E.A., Tovani C.B., Ramos A.P., Bottini M., Buchet R., Millán J.L., Ciancaglini P. Lipid microenvironment affects the ability of proteoliposomes harboring TNAP to induce mineralization without nucleators. *Journal of Bone Mineral Metabolism*. 2019; 37(4): 607-613
- 23 Plaut J.S., Strzelecka-Kiliszek A., Bozycki L., Pikula S., Buchet R., Mebarek S., Chadli M., Bolean M., Sper Simao A.M., Ciancaglini P., Magrini A., Rosato N., magne D., Girard-Egrot A., Farquharson C., Esener S., Millan J.L., Bottini M. Nanomechanical and morphological properties of hydrated matrix vesicles in the presence and absence of calcium. *Archives of Biochemistry and Biophysics*. 2019; 667:14-21
- 24 Liu L., Hu F., Wang H., Wu X., Eltahan A. S., Stanford S., Bottini N., Xiao H., Bottini M., Guo W., Liang X. -J. (2019). Secreted protein acidic and rich in cysteine mediated biomimetic delivery of methotrexate by albumin-based nanomedicines for rheumatoid arthritis therapy. *ACS Nano*, vol. 13, p. 5036-5048.
- 25 Li X.,* Bottini M.,* Zhang L., Zhang S., Chen J., Zhang T., Liu L., Rosato N., Ma X., Shi X., Guo W., Wu Y., Liang X.-J. Core-satellite nanomedicines for in vivo real-time monitoring of enzyme-activatable drug release by combined photoacoustic and fluorescence imaging. * = equal contribution. *ACS Nano*. 2019; 13(1): 176-186
- 26 Motevalli S.M., Eltahan A.S., Liu L., Magrini A., Rosato N., Guo W., Bottini M., Liang X.-J. Co-encapsulation of curcumin and doxorubicin in albumin nanoparticles blocks the adaptive treatment tolerance of cancer cells. *Biophysics Reports*. 2019; 5(1): 19-30
- 27 Guo W., Chen J., Liu L., Ly G., Eltahan A.S., Xiao H., Rosato N., Gong X., Wang D., Chang J., Bottini M., Liang X.-J. Laser induced transformable BiS@HSA/DTX multiple nanorods for photoacoustic/computed tomography dual-modal imaging guided photothermal/chemo combinatorial anticancer therapy. *ACS Appl Mater Interfaces*. 2018; 10(48): 41167-41177
- 28 Zhang T., Huang Y., Ma X., Gong N., Liu X., Liu L., Ye X., Hu B., Li C., Tian J.-H., Magrini A., Zhang J. Guo W., Xing J.-F., Bottini M., Liang X.-J. Fluorinated oligoethylenimines nano-assemblies for efficient siRNA-mediated gene silencing in serum-containing media by effective endosomal escape. *Nano Letters*. 2018; 18(10): 6301-6311
- 29 Eltahan A.S., Liu L., Okeke C.I., Huang M., Han L., Chen J., Xue X., Bottini M., Guo W., Liang X.-J. NVP-BE2235/Chlorin-e6 co-loaded nanoparticles ablate breast cancer by biochemical and photodynamic synergistic effects. *Nano Research*. 2018; 11(9): 4846-4858
- 30 Chen J., Liu L., Mohammad Motevalli S., Wu X., Yang X.-H., Li X., Han L., Magrini A., Guo W., Chang J., Bottini M., Liang X.-J. Light-triggered retention and cascaded therapy of albumin-based theranostic nanomedicines to alleviate tumor adaptive treatment tolerance. *Advanced Functional Materials*. 2018; 28(17): 1707291
- 31 Bhattacharya K., Sacchetti C., Costa P.M., Sommertune J., Brandner B.D., Magrini A., Rosato N., Bottini N., Bottini M., Fadeel B. Nitric oxide-dependent degradation of polyethylene glycol-modified single-walled carbon nanotubes: Implications for intra-articular delivery. *Advanced Healthcare Materials*. 2018; 7(6): 1700916
- 32 Mukherjee S.P., Bondarenko O., Kohonen P., Andón F.T., Brzicová T., Gessner I., Mathur S., Bottini M., Calligari P., Stella L., Kisin E., Shvedova A., Autio R., Salminen-Mankonen H., Lahesmaa R., Fadeel B. Macrophage sensing of single-walled carbon nanotubes via Toll-like receptors. *Scientific Reports*. 2018; 8(1): 1115
- 33 Bottini M., Mebarek S., Anderson K.L., Strzelecka-Kiliszek A., Bozycki L., Simão A.M.S., Bolean M., Ciancaglini P., Bandorowicz Pikula J., Pikula S., Magne D., Volkmann N., Hanein D., Millán J.L., Buchet R. Matrix vesicles from chondrocytes and osteoblasts: their biogenesis, properties, functions and biomimetic models. *Biochimica et Biophysica Acta (BBA) – General Subjects*. 2018; 1862(3): 532-546
- 34 Bolean M., Simão A.M.S., Barioni M.B., Favarin B.Z., Sebinelli H.G., Veschi E.A., Janku T.A.B., Bottini M., Hoylaerts M.F., Itri R., Millán J.L., Ciancaglini P. Biophysical aspects of biomineralization. *Biophysical Reviews*. 2017; 9(5): 747-760

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- 36 Mukherjee S.P., Bottini M., Fadeel B. Graphene and the immune system: a romance of many dimensions. *Frontiers in Immunology*. 2017; 8: 673
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PARTICIPATION TO CONFERENCES AS ORGANIZER

- Date 2022
- Venue Riberao Preto, Brazil
- Conference 4th International Conference on Matrix Vesicles: From Biochemistry to Clinic

- Date 06/2018
- Venue Rome, Italy
- Conference 1st International Conference on Matrix Vesicles: From Biochemistry to Clinic

- Date 09/2017
- Venue Basel, Switzerland
- Conference CLINAM, satellite session on “Arthritis Nanomedicine”

- Date 09/2016
- Venue Frascati, Italy
- Conference Nanoscience and Nanotechnology 2016

- Date 06/2016
- Venue Cancun, Mexico
- Conference Energy Materials and Nanotechnology, 1st EMN Meeting on Nanomedicine

- Date 06/2015
- Venue Cancun, Mexico
- Conference Energy Materials and Nanotechnology, satellite session on “Nanomedicine”

- Date 06/2014
- Venue Cancun, Mexico
- Conference Energy Materials and Nanotechnology, satellite session on “Nanomedicine”

PARTICIPATION TO CONFERENCES AS INVITED SPEAKER

- Date 09/2019
- Venue Chengdu, China
- Conference 1st Asian Young Investigator Symposium on Pharmaceutical Science and Technology
- Talk title SPARC-mediated delivery of methotrexate by albumin-based nanomedicines for efficient treatment of rheumatoid arthritis

- Date 11/2017
- Venue Shanghai, China
- Conference 15th Chinese Biophysics Congress
- Talk title Morphological characterization of matrix vesicles during biomineralization

- Date 10/2017
- Venue Santos, Brazil
- Conference 52nd Congress of the Brazilian Society of Biophysics
- Talk title Nanomechanical properties of matrix vesicles

- Date 08/2017
- Venue Beijing, China
- Conference ChinaNANO 2017
- Talk title Biochemical and nanomechanical properties of matrix vesicles: an AFM-based study

- Date 05/2017
- Venue Basel, Switzerland
- Conference CLINAM
- Talk title Multifunctional nanoparticles for osteoarthritis therapy and diagnosis

- Date 09/2016
- Venue Frascati, Italy
- Conference Nanoscience and Nanotechnology 2016
- Talk title Recent progresses in osteoarthritis nanomedicine

- Date 06/2016
- Venue Aracaju, Brazil
- Conference 2nd Regional Congress of the Brazilian Society of Biophysics
- Talk title Atomic force microscopy: general principles and applications in osteoarthritis therapy and diagnosis

- Date 06/2016
- Venue Natal, Brazil
- Conference 2nd Latin American Symposium on the Molecular mechanisms of Skeletal Mineralization
- Talk title Atomic force microscopy of mineralization-competent matrix vesicles: a focus on the role of PHOSPHO1

- Date 06/2016
- Venue Cancun, Mexico
- Conference Energy, Materials and Nanotechnology, 1st EMN Meeting on Nanomedicine
- Talk title Raman spectroscopy/microscopy for in situ monitoring of trafficking and degradation of PEG-modified single-walled carbon nanotubes

- Date 11/2015
- Venue San Francisco, USA
- Conference Annual Meeting of the American College of Rheumatology
- Talk title Engineered nanoparticles for therapeutic delivery to chondrocytes

- Date 08/2015
- Venue Beijing, China
- Conference ChinaNANO 2015
- Talk title Targeted Nano systems for arthritis therapy

- Date 06/2015
- Venue Cancun, Mexico
- Conference Energy, Materials and Nanotechnology, Workshop of Nanomedicine
- Talk title Intra-articular carbon nanotubes in the treatment of osteoarthritis

- Date 06/2014
- Venue Cancun, Mexico
- Conference Energy, Materials and Nanotechnology, Workshop of Nanomedicine
- Talk title PEG-modified carbon nanotubes in biology and medicine: past, present and future

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

