

CURRICULUM VITAE

Name and Surname: MAURA MONTANI

Institution: School of Bioscience and Veterinary Medicine, University of Camerino

E-mail address: maura.montani@unicam.it

Professional status: Researcher at University of Camerino

Current Position

22/01/2014 - 22/01/2020 **Qualified Associate Professor** in Applied Biology (05/FI; SSD BIO 13)

01/12/2010 - 01/08/2016 **Researcher** (Research Fellow- FIRB “Futuro in ricerca 2008” fund) at School of Biosciences and Veterinary Medicine, University of Camerino (MC), Italy.

2009 - **University professor for the courses** “ Clinical diagnostics and molecular applications” and “ Stem cells, medical application and animal models”, School of Biosciences and Veterinary Medicine, University of Camerino (MC), Italy. **Supervisor of 14 master degree thesis in Biology**

Education

2008-2010 Research Fellow, University of Camerino (MC), Italy.

2005-2008 Post-doctoral position, University of Camerino (MC), Italy.

2002-2005 Ph.D. in Biology, University of Camerino (MC), Italy.

2002 Master Degree in Biology at University of Camerino (MC), Italy. Graduation with distinction (cum laude).

1996 Secondary School (Diploma Degree): Liceo Scientifico "E. Medi", Montegiorgio (AP), Italy.

Professional Experiences

2010 Visiting Scientist, National School of Cytometry (GIC), University of Urbino, Urbino (PU), Italy.

2008 Visiting Scientist, General hospital, Milano, Italy.

2007 Visiting Scientist, Molecular Biotechnology Center, University of Torino, Torino, Italy.

2006 Visiting Scientist, C.E.R.M.S, Torino, Italy.

2003 Visiting Scientist, Pbinational, Milano, Italy.

Prize

2003 Best Degree in Cytofluorimetric , Italian Cytofluorimetric Society, Spoleto (PG), Italy.

Fellowship

2010- Fellowship granted by MIUR, FIRB “Futuro in ricerca 2008” found. Field of interest: Understanding the Interactions between Cells and Lipid Nanoparticles for Gene Delivery.

2008-2010 Fellowship granted by University of Camerino (MC), Italy. Field of interest: Cancer signal transduction, nanotechnology systems for DNA transfer and cancer immunotherapy.

2005-2008 Fellowship granted by MIUR. Field of interest: DNA vaccination against Her-2 mammary carcinoma.

2002-2005 Fellowship granted by University of Camerino (MC), Italy. Field of interest: Characterization of mammary carcinoma cell lines and transfection studies of multicomponent lipoplexes.

Funded Research as Principal Investigator (PI)

2012 FAR 2011 and 50% FAR 2010 granted by University of Camerino (MC), Italy, (€ 2560,00).

2011 FAR 2010 and 50% FAR 2009 granted by University of Camerino (MC), Italy, (€ 2801,44).

2008 Financing funding F.I.R.B. “Futuro in ricerca 2008” granted by MIUR (€ 197600,00). Field of research: Understanding the Interactions between Cells and Lipid Nanoparticles for Gene Delivery.

Funded Research as a research group's component

AIRC 2011. Field of interest: A mouse model to study the response of Delta 16 HER2-driving tumorigenesis to immunotherapies targeting HER2. 36 months.

PRIN 2009. Field of interest: Validazione in vitro e in vivo di nuovi micro-nanovettori per il trasporto e rilascio di farmaci e geni. 24 months.

PRIN 2008. Field of interest: Strategie combinate basate sulla vaccinazione a DNA per curare i carcinomi ErbB2 neu positivi e le loro recidive. 24 months.

PRIN 2006. Field of interest: Vaccini contro i tumori ErbB2 positivi. 24 months.

PRIN 2004. Field of interest: Il recettore HER2/ErbB2 nella progressione, prevenzione e terapia dei tumori. 24 months.

FIRB Laboratori 2003. Field of interest: INT-HER-FERENCE la famiglia dei recettori HER nel cancro: un network di piattaforme per la ricerca e sviluppo di nuovi approcci terapeutici molecolari. 44 months.

AIRC 2002-2003. Field of interest: DNA vaccination with plasmids encoding decreasing portions of the p185neu for the prevention of mammary cancer. 24 months.

PRIN 2002. Field of interest: Le basi sperimentali per la costruzione di vaccini per prevenire l'insorgenza di carcinomi Her-2/neu (ErbB-2) positivi. 24 months.

Industrial Partnership

2011- Biolab srl, Ascoli piceno; Italy. 2002- INDENA S.p.a, Milano, Italy.

National and international collaborations

She has several national and international collaborations.

International Publications

She co-authored **36** peer-reviewed publications. Among these, **3** papers were selected to appear on the Virtual Journal of Biological Physics Research.

The h-index is 14 with 554 total Citations (source Scopus 26 January 2016) National publications

She co-authored **1** national publication: (2009) Pocognoli A. et al. **Lettere GIC**, Vol. 18, Num. 3

Chapter in Book

She co-authored 1 chapter in book. (2006) **Highlights, (E.S.R.F.)**, Grenoble (Fr): 35-37.

Patent

Inventor of the **Italian Patent n. MI2011A002254**, title “Libreria fagica di frammenti della proteina HER2”.

Inventor of the **Italian Patent n. MI2012A00159**, title “Anticorpo monoclonale anti-ASAIA”.

Inventor of the **Italian Patent n. MI2013A001359**, title “Complessi di rutenio con attività chemioterapica antitumorale”

Inventor of **International Patent PCT/WO2015019296**, title “ Ruthenium complexes with Antitumoral Chemiotherapy Activites”

Contribution to proceedings of 11 conferences published on international reviews Contribution and attendance at 41 national and international workshops/conferences Contribution to Workshop Organization

2013 “Second Ascoli Piceno Conference on Gene Vaccination in Cancer”, Ascoli Piceno, Italy.

2011 “First Ascoli Piceno Conference on Gene Vaccination in Cancer”, Ascoli Piceno, Italy.

2003 “Workshop on Her-2/neu tumors: experimental models”, University of Camerino (MC), Italy.

She is Reviewer for 3 international journals Principale research fields of DR Maura Montani

2012 - Organometallic Compound as anti-cancer agents

2010 - Epigenetic mechanisms in neurodegeneration

2005 - Gene delivery systems

2002 - Signal transduction in cancer 2002

- DNA vaccination

Publications (2005 - present):

1. **Montani M.**, Badillo Pazmay G., Hysi A., Lupidi G., Pettinari R., Gambini V., Tilio M., Marchetti F., Pettinari C., Ferraro S., Iezzi M., Marchini C., Amici A. The Water Soluble Ruthenium(II) Organometallic Compound [Ru(p-cymene)(bis(3,5dimethylpyrazol-1-yl)methane)Cl]Cl Suppresses Triple Negative Breast Cancer Growth by Inhibiting Tumor Infiltration of Regulatory T Cells. **Pharmacological Research** (accepted for publication 01/03/2016).
2. Fedeli D*, **Montani M***, Galeazzi R., Nasuti C., Correia-Sá L., Domingues V. F., Maini J., Brahmachari V., Massaccesi L. and Gabbianelli R. In vivo and in silico studies to identify mechanisms associated to changes of NURR1 gene expression following early life exposure to permethrin in rats. **Neuroscience** (under revision) (***Equally contributed**).
3. Candelori A., **Montani M.**, Amici A., Loporini P. and Vallesi A. Identification and functional characterization of two signal sequences responsible for the nucleolar localization of Er-MAPK1, a protein kinase of the ciliate Euplotes raikovi. **Eukaryotic Cell** (under revision).

4. Sparvoli D., Ballarini P., Marziale F., Arregui L. **Montani M.**, Pucciarelli S. and Miceli C. Cellular Role of Tubulin Isoforms: Analysis of the EFTB2 and EFTB3 Tubulins from the Antarctic Ciliate *Euplotes focardii*. **Protist** (under revision).
5. **Montani M.**, Marchini C., Badillo Pazmay G. V., Andreani C., Bartolucci C., Amici A., Pozzi D., Caracciolo G. (2015). Getting the most from gene delivery by repeated DNA transfections. **Appl. Phys. Lett.**, 106 (4): 233701-4.
6. Pozzi D., Marchini C., Cardarelli F., Salomone F., Coppola S., **Montani M.**, Zabaleta M.E., Digman M.A., Gratton E., Colapicchioni V., Caraggiolo G. (2014). Mechanistic evaluation of the transfection barriers involved in lipid-mediated gene delivery: Interplay between nanostructure and composition. **BBA Biomembranes**, 1838 (3): 957-967.
7. Pozzi D., Marchini C., Cardarelli F., Rossetta A., Colapicchioni V., Amici A., **Montani M.**, Motta S., Brocca P., Cantu L. and Caracciolo G. (2013). Mechanistic Understanding of Gene Delivery Mediated by Highly Efficient Multicomponent Envelope-Type Nanoparticle Systems. **Molecular pharmaceutics**, 10 (12): 4654-4665.
8. Carloni M., Nasuti C., Fedeli D., **Montani M.**, Vadhana MS., Amici A., Gabbianelli R. (2013). Early life permethrin exposure induces long-term brain changes in Nurr1, NF-KB and Nrf-2. **Brain Res.**, Jun 17; 1515:19-28. doi: 10.1016/j.brainres. 2013.03.048.
9. Gabrielli F., Salvi R., Garulli C., Kalogris C., Arima S., Tardella L., Monaci P., Pupa SM., Tagliabue E., **Montani M.**, Quagliano E., Stramucci L., Curcio C., Marchini C., Amici A. (2013) Identification of relevant conformational epitopes on the HER2 oncoprotein by using Large Fragment Phage Display (LFPD). **PLoS ONE**, 8 (3): e58358. doi: 10.1371/journal.pone.0058358.
10. Bisaro B*, **Montani M***, Konstantinidou G., Marchini C., Pietrella L., Iezzi M., Galiè M., Orso F., Camporeale A., Colombo S.M., Di Stefano P., Tornillo G., Camacho-Leal M.P., Turco E., Taverna D., Cabodi S., Amici A. Defilippi P. (2012). p130Cas/Cyclooxygenase-2 axis in the control of mesenchymal plasticity of breast cancer cells. **Breast Cancer Research**, Oct 26; 14(5): R137.doi:10.1186/bcr3342 (***Equally contributed**).
11. Fedeli D*, **Montani M***, Carloni M., Nasuti C., Amici A., Gabbianelli R.. (2012). Leukocyte nurr1 as peripheral biomarker of early-life environmental exposure to permethrin insecticide. **Biomarkers** July18, (DOI: 10.3109/1354750X.2012.706641) (***Equally contributed**).
12. Carloni M., Nasuti C., Fedeli D., **Montani M.**, Amici A., Vadhana M.S., Gabbianelli R. (2012). The impact of early life permethrin exposure on development of neurodegeneration in adulthood. **Exp Gerontol.** Jan; 47(1): 60-6. Epub 2011 Oct 25.
13. Caracciolo G., Pozzi D., Capriotti A., Marianecchi C., Carafa M., Marchini C., **Montani M.**, Amici A., Amenitsch H., Digman M., Sahceş S., Gratton E., Laganà A. (2011) Factors determining the superior performance of lipid/DNA/protamine nanoparticles 9 over Lipoplexes. **J. Med. Chem.**, 54(12):4160-4171.
14. Marchini C., Gabrielli F., Iezzi M., Zenobi S., **Montani M.**, Pietrella L., Kalogris C., Rossini A., Ciravolo V., Castagnoli L., Tagliabue E., Pupa SM., Musiani P., Monaci P., Menard S., Amici A. (2011) The Human Splice Variant Δ 16HER2 Induces Rapid Tumor Onset in a Reporter Transgenic Mouse. **PLoS ONE**, 6 (4): e18727.
15. Marchini C., Pozzi D., **Montani M.**, Alfonsi C., Amici A., Candeloro De Sanctis S., Digman MA., Sanchez S., Gratton E., Amenitsch H., Fabbretti A., Gualerzi CO., Caracciolo G. (2011) Role of temperature-independent lipoplex-cell membrane interactions in the efficiency boost of multicomponent lipoplexes. **Cancer Gene Ther.**, 18(8):543-52. Doi: 10.1038/cgt.2011.12.
16. Marchini C*, **Montani M***, Konstantinidou G., Orrù R., Mannucci S., Ramadori G., Gabrielli F., Baruzzi A., Berton G., Merigo F., Fin S., Orlando F., Iezzi M., Bisaro B., Sbarbati A., Zerani M., Galiè M.* and Amici A.* : Mesenchymal/Stromal gene expression signature relates to basal-like breast cancers, identifies bone metastasis and predicts resistance to therapies. (2010) **PLoS ONE** November 5 (11) e14131 (***Equally contributed**).
17. Marchini C., Pozzi D., **Montani M.**, Alfonsi C., Amici A., Amenitsch H., Candeloro De Sanctis S. and Caracciolo G. Tailoring Lipoplex Composition to the Lipid Composition of Plasma Membrane: A Trojan Horse for Cell Entry? (2010) **Langmuir**, 26(17):13867-73..
18. Cabodi S., Tinnirello A., Bisaro B., Tornillo G., Camacho-Leal M., Forni G., Cojoca R., Iezzi M., Amici A., **Montani M.**, Eva A., Di Stefano P., Muthuswamy S., Tarone G., Turco E., and Defilippi P. p130Cas is an essential transducer element in ErbB2 transformation. (2010) **FASEB J.** May 26. [Epub ahead of print]
19. Quagliano E., Mastini C., Amici A., Marchini C., Iezzi M., Lanzardo S., De Giovanni C., **Montani M.**, Lollini P.L., Masucci G., Forni G., Cavallo F. : A better immune reaction to Erbb-2 tumors is elicited in mice by DNA vaccines encoding rat/human chimeric proteins. (2010) **Cancer Res.** 70(7):2604-12
20. Pozzi D., Marianecchi C., Carafa M., Marchini C., **Montani M.**, Amici A., Caracciolo G. Programmed Packaging of Multicomponent Envelope-type Nanoparticle System for Gene Delivery. (2010) **Appl. Phys. Lett.**, 18: 3702-3.
21. Pozzi D., Marianecchi C., Carafa M., Marchini C., **Montani M.**, Amici A., Caracciolo G. Programmed packaging of multicomponent envelope-type nanoparticle system (MENS). (2010) **Journal of controlled release**, Volume 148 Pages e87-89

22. Pozzi D., Caracciolo G., Marchini C., **Montani M.**, Amici A., Callipo I., Capriotti A.L. Cavaliere C., and Laganà A. surface adsorption of protein corona controls the cell uptake mechanism in efficient cationic liposome/DNA complexes in serum. (2010) **Journal of controlled release**, Volume 148, Issue 1, 20 November 2010, Pages e94-95
23. Pozzi D., Caracciolo G., Caminiti R., Candeloro De Sanctis S., Amenitsch H., Marchini C., **Montani M.**, and Amici A. Toward the Rational Design of Lipid Gene Vectors: Shape Coupling between Lipoplex and Anionic Cellular Lipids Controls the Phase Evolution of Lipoplexes and the Efficiency of DNA Release. (2009) **Applied Materials & Interfaces**, 1(10): 2237-2249.
24. Marchini C., **Montani M.**, Amici A., Amenitsch H., Marianecci C., Pozzi D. and Caracciolo G. Structural stability and increase in size rationalize the efficiency of lipoplexes in serum. (2009) **Langmuir**, 25(5): 3013-3021.
25. Marchini C., **Montani M.**, Amici A., Pozzi D., Caminiti R. and Caracciolo G. Surface area of lipid membranes regulates the DNA-binding capacity of cationic liposomes. (2009) **Appl. Phys. Lett.**, 94: 033903-033906.
26. Caracciolo G*, Pozzi D., Caminiti R., Marchini C*, **Montani M.**, Amici A. and Amenitsch H.. Enhanced transfection efficiency of multicomponent lipoplexes in the regime of optimal membrane charge density. (2008) **J. Phys. Chem. B**, 112 (36):11298-11304.
27. Caracciolo G., Pozzi D., Caminiti R., Marchini C., **Montani M.**, and Amenitsch H. : Effect of pH on the Structure of Lipoplexes. (2008) **Journal of Applied Physics**, 104 :1-7.
28. Rolla* S., Marchini* C., Malinarich S., Quaglino E., Lanzardo S., **Montani M.**, Angeletti M., Ramadori G., Forni G., Cavallo F*, and Amici A*: Protective immunity against neu-positive carcinomas elicited by electroporation of plasmids encoding decreasing fragments of rat neu extracellular domain. (2008) **Hum. Gene Ther.**, 19: 229-239.
29. Galiè M., Konstantinidou G., Peroni D., Scambi I., Marchini C., Magnani P., Merigo, F., **Montani M.**, Boschi F., Marzola P., Orrù R., Lisi V., Krampera M., Farace P., Sbarbati A., and Amici A.: Mesenchymal stem cells share molecular signature with mesenchymal tumor cells and favor early tumor growth in syngeneic mice. (2008) **Oncogene**, 27 (18): 2542-2551.
30. Caracciolo G., Pozzi D., Caminiti R., Marchini C., **Montani M.**, Amici A. and Amenitsch H..On the correlation between phase evolution of lipoplexes/anionic lipid mixtures and DNA release. (2007) **Appl. Phys. Lett.**, 91:143903-143905. This paper has been selected for the October 15, 2007 issue 16 n. 6 of Virtual Journal of Nanoscale Science & Technology. (<http://www.vjnano.org>)
31. Caracciolo G., Pozzi D., Caminiti R., Marchini C., **Montani M.**, Amici A., and Amenitsch H. : Transfection efficiency boost by designer multicomponent lipoplexes. (2007) **BBA Biomembranes**, 1768 (9): 2280-2292.
32. Caracciolo G., Marchini C., Pozzi D., Caminiti R., Amenitsch H., **Montani M.**, and Amici A: Structural Stability against disintegration by anionic lipids rationalizes the efficiency of cationic liposome/DNA complexes. (2007) **Langmuir**, 23(8): 4498-4508.
33. Caracciolo G., Pozzi D., Caminiti R., Marchini C., **Montani M.**, Amici A. and Amenitsch H.. DNA release from cationic liposome/DNA complexes by anionic lipids. (2006) **Appl. Phys. Lett.**, 89: 233903-233905. This paper has been selected for the February 27, 2006 issue 13 n. 8 of Virtual Journal of Nanoscale Science & Technology. (<http://www.vjnano.org>)
34. Bruni P., Pisani M., Amici A., Marchini C., **Montani M.** and Francescangeli O.: Self assembled ternary complexes of neutral liposomes, DNA and bivalent metal cations. Promising vectors for gene transfer? (2006) **Appl. Phys. Lett.** 88: 073901-073903. This paper has been selected for the February 27, 2006 issue 13 n. 8 of Virtual Journal of Nanoscale Science & Technology. (<http://www.vjnano.org>)
35. Galiè M., Sorrentino C., **Montani M.**, Micossi L, Di Carlo E., D'Antuono T., Calderan L., Marzola P., Benati D., Merigo F., Orlando F., Smorlesi A., Marchini C., Amici A. and Sbarbati A. : Breast carcinoma provides highly tumorigenic and invasive myofibroblasts. (2005) **Carcinogenesis**, 26 (11): 1868-1878.
36. Galiè M., D'Onofrio M., **Montani M.**, Amici A., Calderan L., Marzola P., Benati D., Merigo F., Marchini C. and Sbarbati A. : Tumor vessel compression hinders perfusion of ultrasonographic contrast agents. (2005) **Neoplasia**, 7 (5): 528-536.