Curriculum Vitae

PERSONAL INFORMATION

Name: Silvia Mannucci
E-mail: silman82@hotmail.it

KEY SKILL

- High knowledge of cell culture techniques (bacterial and eukaryotic cells), DNA and protein extraction from them, cell assays such as MTT test, cell motility, migration and invasion, study of epigenetic cancer cells, isolation of stem cells from adipose tissue of mice, isolation of cells from tumor biopsies, labeling cells with nanomaterials.
- Application of the main biochemical and molecular biology methods: western blot, PCR primer design, microarray analysis, and cluster analysis of expression, in silico studies, transformation of bacteria (E. coli) for the amplification plasmid, transient transfection agents and lipid use of restriction enzymes.
- Good ability in the handling and treatment of rodents (mice and rats), in particular perfusion, extraction organs and small surgical operations. Skilled in production of murine tumor models.
- Good knowledge in the preparation of cell cultures in vitro differentiation of cell lines and analysis by flow cytometry and cell sorting.
- Good skills for the histological preparations for light microscopy. Analysis by optical imaging.
- Acquisition skills Magnetic Resonance for display of animal models. Using paramagnetic nanoparticles as a contrast medium or carrier for drugs and thermotherapy.
- Good knowledge of the main techniques of chromatography and spectroscopy.
- Laboratory activities in food microbiology (biochemical tests from the start of the examination until biochemical identification of various bacterial strains). Serological (serological tests on blood samples for prophylaxis brucellosis and enzootic bovine).
- Good knowledge of the quality control system in accordance with the requirements of the UNI CEI EN ISO / IEC 17025.
- Good knowledge of operating systems such as Windows, Power Point, Excel and Softwares for Real Time PCR for the MRI and the development of magnetic resonance images.
- Good knowledge of the major molecular and genomic databases (NCBI, EBI, EMBL) and the use of the systems for molecular and genetic research data. Good knowledge of programs such as DAVID Bioinformatics Resources 6.7, September Gene enrichment analysis (GSEA), Gene Ontology analysis (GO), for Genomics in silico studies, Claster 3.0 MEV 4_5 and VIVOVISION Systems, IVIS 200 series, imaging system for small animals laboratory Xenogen

WORK EXPERIENCE

From 8 January 2018 to present: Research and training center in regenerative surgery Accademia del lipofilling and University of Verona; Temporary employee contract (coordinated and continuous collaboration Co.Co.Co) Project Manager Prof. Andrea Sbarbati and Dott. Michele Riccio

From 1 March 2018 to present: University of Verona; scholarship: "Development of techniques for tissue regeneration". Department Neuroscience, Biomedicine and Movement Sciences Anatomy and Histology Division. Project Manager Prof. Andrea Sbarbati

From 1 January 2016 to December 2017: University of Verona; Post Doc: "Powerful nanoparticles for hyperthermic treatment of glioblastoma *in vivo* model". Department of Neurological and Movement Science Anatomy and Histology Division. Project Manager Prof. Andrea Sbarbati and Dott. Laura Calderan

From 1 January 2015 to December 2015: University of Verona; Post Doc: "Chemical and physical characterization of Magnetosomes (magnetic nanoparticles) extracted from the magnetotactic bacteria Magnetospirillum gryphiswaldense MSR-1". Department of Neurological and Movement Science Anatomy and Histology Division. Funded project from AIRC (Associazione Italiana Ricerca sul Cancro. IG11993) Project Managers: Prof. Andrea Sbarbati and Prof. Pasquina Marzola

From 1 January 2014 to December 2014: University of Verona; Post Doc: "*In vivo* and *ex vivo* experiments on nanoparticles with optical/magnetic properties". Department of Neurological and Movement Science Anatomy and Histology Division. Funded project from AIRC (Associazione Italiana Ricerca sul Cancro. IG11993) Project Managers: Prof. Andrea Sbarbati and Prof. Pasquina Marzola

From 1 January 2013 to December 2013: University of Verona; Post Doc: "Development of *in vitro* and *in vivo* to study the interaction of nanoparticles and biological systems" Department of Neurological and Movement Science Anatomy and Histology Division. Funded project from AIRC (Associazione Italiana Ricerca sul Cancro. IG11993) Project Managers: Prof. Andrea Sbarbati and Prof. Pasquina Marzola

From 1 January 2012 to December 2012: University of Texas Southwestern Medical Center: Hypothalamic research in collaboration with University of Verona; Post Doc: "Role of Sirtuins in genetic and epigenetic regulation of tumorigenesis, the potential effect of Sirt6 and Sirt4, mild-overexpression in hampering tumor growth". Project Manager: Dott. Mirco Galiè and Prof. Roberto Coppari

From 1 January 2009 to December 2011: University of Verona; Ph.D. student in multimodal imaging in biomedicine "Transcriptional connections between embryonic stem, adult stem and tumor phenotypes". Department of Neurological and Movement Science Anatomy and Histology Division. Project Manager: Prof. Andrea Sbarbati

From 1 July 2007 to 20 October 2008: University of Camerino; Experimental thesis: "Epigenetic modification of COX2 promoter in a mammary tumor model FVB/NeuT". Department of Molecular Cellular Animal Biology. Project Manager: Prof. Augusto Amici

From 17 0ctober 2005 to 21 December 2005: Experimental Animal Disease Prevention Institute of Umbria and Marche, Fermo Section; Bachelor thesis "Extraction of DNA from Listeria monocytogenes colonies isolated from food and subsequent differentiation into serotypes by Multiplex PCR". Project Manager: Prof. Manuela Prenna

From 3 July 2000 to 30 July 2000 Experimental Animal Disease Prevention Institute of Umbria and Marche, Fermo Section; internships main tasks: Quality control system, laboratory activities in food microbiology (biochemical tests since the beginning of the examination until biochemical identification of the various bacterial strains). Serology (serological testing on blood samples for brucellosis and enzootic bovine prevention campaigns)

EDUCATION

July 2016: Award of the European Computer Driving Licence (ECDL full standard) 4 core modules: Computer Essentials (basic concepts of the computer), Online Essentials (basic concepts of the network), Word Processing (word processing), Spreadsheets (spreadsheet) and 3 standard modules: Presentation (presentations Realization), IT Security (safe use of the network), online Collaboration (Communicate and collaborate online). the certificate issuing body: Italian Association for IT and Automatic Calculation.

April 2012: Ph.D in Multimodal Imaging in Biomedicine, University of Verona. Thesis entitled: "Transcriptional connections between embryonic stem, adult stem and tumor phenotypes".

June 2010: Qualified to practice as Senior Biologist University of Camerino

October 2008: Masters Degree in Biofunctional Biomolecular Science, Universtiy of Camerino. Thesis entitled "Epigenetic modification of COX2 promoter in a mammary tumor model FVB/NeuT"

April 2005: Bachelor's Degree in Biotechnology, Universtiy of Camerino. Thesis entitled: "Extraction of DNA from the colonies of Listeria monocytogenes isolates from foods and subsequent differentiation into serotypes by multiplex PCR"

SCIENTIFIC MEETINGS

13th Multinational Congress on Microscopy, Rovinj, Croatia September 24-29, 2017, pp. 1-1 Mannucci Silvia; Boschi Federico; Esposito Elisabetta; Cortesi Rita; Nastruzzi Claudio; Malatesta Manuela; Calderan Laura. Poster: "In vivo and in vitro biodistribution of solid lipid nanoparticles".

32th Annual Scientific Meeting of ESMRMB (European Society for Magnetic Resonance in Medicine and Biology) Edinburgh 1-3 October 2015**.** Oral presentation of scientific session Novel contrast (agents): "Theranostic properties of Magnetic Nanoparticles extracted from magnetotactic bacteria" and e-poster

28th Annual Conference of Italian Association of Cell Cultures (ONLUS-AICC) Naples, 16-17 November 2015 Second University of Naples, Medical School. Poster: "Treatment of Glioblastoma with Magnetic Nanoparticles and Hyperthermia".

30th Annual Scientific Meeting of ESMRMB (European Society for Magnetic Resonance in Medicine and Biology) Tolosa 3-5 October 2013. Oral presentation of scientific session Preclinical Studies & Basic Science, Theranostics: "Magnetosomes extracted from *Magnetospirillum gryphiswaldence* as magnetic thermotherapy agents" and e-poster.

International Conference NanotechItaly 2014. Poster: "Inhibition of tumor growth in a xenograft model of glioblastoma treated with MSR-1 Magnetosomes and Alternating Magnetic Field" Venice 26-28 November 2014.

29th Annual Meeting of the European Society for hyperthermic oncology. Turin 11-14 June 2014. Poster "Inhibition of tumor growth in a xenograft model of glioblastoma treated with MSR-1 Magnetosomes and Alternating Magnetic Field".

LANGUAGES**:** Italian (mother tongue) and English (fluent)

PUBLICATIONS

Silvia Mannucci, Stefano Tambalo, Giamaica Conti, Leonardo Ghin, Alessio Milanese, Anna Carboncino, Elena Nicolato, Maria Rosaria Marinozzi, Donatella Benati, Roberto Bassi, Pasquina Marzola, Andrea Sbarbati. **Inhibition of tumor growth in a xenograft model of glioblastoma treated with *Magnetospirillum gryphiswaldense* and alternating magnetic field.** Accepted: Contrast media e molecular imaging

Maria Rosaria Marinozzi, Laura Pandolfi, Manuela Malatesta, Miriam Colombo, Veronica Collico, Patricia Marie-Jeanne Lievens, Stefano Tambalo, Chiara Lasconi, Federico Boschi, **Silvia Mannucci**, Andrea Sbarbati, Davide Prosperi, Laura Calderan. **Innovative approach to safely induce controlled lipolysis by superparamagnetic iron oxide nanoparticles-mediated hyperthermic treatment**. Int J Biochem Cell Biol. 2017 Oct 27;93:62-73 (I.F. 3.505)

Elisabetta Esposito, Rita Cortesi, Markus Drechsler, Jie Fan, Bingmei M. Fu, Laura Calderan, **Silvia Mannucci**, Federico Boschi, Claudio Nastruzzi. **Nanoformulations for dimethyl fumarate: Physicochemical characterization and in vitro/in vivo behavior.** European Journal of Pharmaceutics and Biopharmaceutics, 2017 Jun;115:285-296 (I.F. 3.975)

Paola Ringhieri, **Silvia Mannucci**, Giamaica Conti, Elena Nicolato, Giulio Fracasso, Pasquina Marzola, Giancarlo Morelli, Antonella Accardo. **Liposomes derivatized with multimeric copies of KCC YSL peptide as targeting agents for HER -2-overexpressing tumor cells**. International Journal of Nanomedicine, 13 January 2017:12 501-514 (I.F. 4.32)

Mannucci S, Calderan L, Quaranta P, Antonini S, Mosca F, Longoni B, Marzola P, Boschi F. **Quantum dots labelling allows detection of the homing of mesenchymal stem cells administered as immunomodulatory therapy in an experimental model of pancreatic islets transplantation**. J Anat. 2016 Nov 15. doi: 10.1111/joa.12563. [Epub ahead of print] PubMed PMID: 27861845. (I.F. 2.154)

Orlando T, **Mannucci S**, Fantechi E, Conti G, Tambalo S, Busato A, Innocenti C, Ghin L, Bassi R, Arosio P, Orsini F, Sangregorio C, Corti M, Casula MF, Marzola P, Lascialfari A, Sbarbati A. **Characterization of magnetic nanoparticles from Magnetospirillum Gryphiswaldense as potential theranostics tools.** Contrast Media Mol Imaging. 2015 Nov 24 (I.F. 3.286)

Elisabetta Esposito, Helga Eveline De Vries, Susanne M.A. van der Pol, Federico Boschi, Laura Calderan, **Silvia Mannucci**, Markus Drechsler, Catia Contado, Rita Cortesi and Claudio Nastruzzi. **Production, Physico-Chemical Characterization and Biodistribution Studies of Lipid Nanoparticles**. J Nanomed Nanotechnol 2015, 5:256 (I.F. 3.573)

Mannucci S., Ghin L., Conti G., Tambalo S., Benati D., Bernardi P., Bassi R., Marzola P., Sbarbati A., **Magnetic nanoparticles from *Magnetospirillum gryphiswaldense* increase the efficacy of thermotherapy in a model of colon carcinoma.** PLoS One. 2014 Oct 7;9(10):e108959 (I.F. 3.057)

Marchini C, Montani M, Konstantinidou G, Orrù R**, Mannucci S**, Ramadori G, Gabrielli F, Baruzzi A, Berton G, Merigo F, Fin S, Iezzi M, Bisaro B, Sbarbati A, Zerani M, Galiè M, Amici A. **Mesenchymal/stromal gene expression signature relates to basal-like breast cancers, identifies bone metastasis and predicts resistance to therapies**. PLoS One. 2010 Nov 30;5(11):e14131. (I.F. 3.057)