

PERSONAL INFORMATION

Monica Benvenuto

Sex: F

Date of birth: 23/02/1984

Nationality: Italian

WORK EXPERIENCE

From 01/10/2019

Researcher, MED/04 (RTDa L.240/2010)

Saint Camillus International University of Health and Medical Sciences (Unicamillus) - via di Sant'Alessandro 8, 00131 - Rome

From 01/12/2018 to
28/02/2019

Post-graduate Fellowship: "Effect of the BH3-mimetic AT-101 on malignant mesothelioma"

University of Rome "Tor Vergata", via Montpellier, 1 - 00133 Rome

From 2018

Adjunct professor, MED/04-General Pathology, Master Degree in Medical Biotechnology

University of Rome "Tor Vergata", via Montpellier, 1 - 00133 Rome

From 15/01/2018 to 14/07/2018

Post-graduate Fellowship: "Antitumoral effect of the combined treatment with polyphenols"

University of Rome "Tor Vergata", via Montpellier, 1 - 00133 Rome

From 09/06/2017 to 08/12/2017

Post-graduate Fellowship: "Antitumoral effect of the combined treatment with polyphenols"

University of Rome "Tor Vergata", via Montpellier, 1 - 00133 Rome

From 01/11/2016 to 30/04/2017

Post-graduate Fellowship: "*In vitro* analysis of curcumin on malignant mesothelioma"

University of Rome "Tor Vergata", via Montpellier, 1 - 00133 Rome

From April 2015 to
September 2016

Post-graduate Fellowship: "*In vitro* and *in vivo* effects of ERW water on breast cancer" - Chanson Project (research Italy RAW H2 2015/2016)

University of Rome "Tor Vergata", via Montpellier, 1 - 00133 Rome

From 01/02/2014 to 31/01/2015

Post-graduate Fellowship "Ultrastructural changes in skeletal and cardiac muscle tissues in rats exposed to the microgravity"

University of Rome "Tor Vergata", via Montpellier, 1 - 00133 Rome

From 01/11/2010 to 31/10/2013

PhD in "Molecular Medicine", University of Rome "Sapienza"

Department of Clinical Sciences and Translational Medicine, University of Rome "Tor Vergata", via Montpellier, 1 - 00133 Rome

EDUCATION AND TRAINING

14/02/2014

PhD in "Molecular Medicine"

University of Rome "Sapienza", Piazzale Aldo Moro, 5 - 00185 Rome

11/05/2010

Master degree in "Medical Biotechnology" (110/110 cum laude)

University of Rome "Tor Vergata", via Montpellier, 1 - 00133 Rome

19/07/2007

Bachelor degree in "Biotechnology" (110/110 cum laude)

University of Rome "Tor Vergata", via della Ricerca Scientifica, 1 - 00133 Rome

PERSONAL SKILLS

Mother tongue

Italian

Other language(s)

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2	B2	B2	B2	B2
PET Certificate (Preliminary English Test)- March 2001				

Technical skills
and competences

Molecular biology and cellular biology techniques: polyacrilamide gel electrophoresis, bidimensional electrophoresis; Western Blotting; ELISA assay; cells cultures in adhesion and in suspension, hybridomas; SRB assay, Trypan blue assay, intracellular ROS production assay, FACS analysis of DNA content; immunofluorescence; immunohistochemistry.

Immunology Techniques: Analysis of the immune response against tumor-associated antigens (ribosomal proteins, CEA, EGFR, ErbB2, extracellular matrix molecules, HSP proteins) in cancer patients.

Animal Manipulation Techniques: Handling, breeding, genotyping of BALB-*neuT* transgenics mice; Production of monoclonal antibodies in BALB/c mice; Vaccination protocols and treatments in BALB/c, BALB-*neuT*, BALB/c nude, C57BL/6 mice.

Computer skills and
competences

Knowledge of Microsoft Office package (Word, Powerpoint, Excel), and computer-graphic software (Paint, Adobe Photoshop).

Knowledge of GraphPad Prism 5.0 and CellQuest Pro 5.2.

ADDITIONAL INFORMATION

Research fields

- *In vitro* and *in vivo* effects of natural compounds, anticancer vaccines and intracellular signaling transduction pathways inhibitors, on cancer cells growth.
- Cancer immunotherapy, production of monoclonal antibodies.

- Analysis of the immune response to tumor-associated antigens (ribosomal proteins, CEA, EGFR, ErbB2, extracellular matrix molecules, HSP proteins) in cancer patients.

List of Publications

1. Masuelli L, **Benvenuto M**, Izzi V, Zago E, Mattera R, Cerbelli B, Potenza V, Fazi S, Ciuffa S, Tresoldi I, Lucarelli E, Modesti A, Bei R. *In vivo and in vitro inhibition of osteosarcoma growth by the pan Bcl-2 inhibitor AT-101. Invest New Drugs.* 2019 Jul 2. [Epub ahead of print]
2. **Benvenuto M**, Mattera R, Miele MT, Giganti MG, Tresoldi I, Albonici A, Manzari A, Modesti A, Masuelli L, Bei R. *Analysis of the effects of a natural multi-components compound formulation on the growth, morphology and extracellular matrix production in human adult dermal fibroblasts.* Exp Ther Med. Accepted for publication. [In press](#).
3. Focaccetti C, Izzi V, **Benvenuto M**, Fazi S, Ciuffa S, Giganti MG, Potenza V, Manzari V, Modesti A, Bei R. *Polyphenols as immunomodulatory compounds in the tumor microenvironment: friends or foes?* Int J Mol Sci. 2019 Apr 6;20(7). pii:E1714. Review.
4. **Benvenuto M**, Mattera R, Sticca JI, Rossi P, Cipriani C, Giganti MG, Volpi A, Modesti A, Masuelli L, Bei R. *Effect of the BH3 mimetic polyphenol (–)-Gossypol (AT-101) on the in vitro and in vivo growth of malignant mesothelioma.* Front Pharmacol. 2018 Nov 6;9: 1269.
5. Frajese GV*, **Benvenuto M***, Mattera R, Giampaoli S, Ambrosin E, Bernardini R, Giganti MG, Albonici L, Dus I, Manzari V, Modesti A, Mattei M, Bei R. *Electrochemically reduced water delays mammary tumors growth in mice and inhibits breast cancer cells survival in vitro.* Evid Based Complement Alternat Med. 2018 Sep 26;2018:4753507. *Co-first authors.
6. Franchini V, Ceccuzzi S, Doria A, Gallerano GP, Giovenale E, Ravera GL, De Amicis A, De Sanctis S, Di Cristofaro S, Regalbuto E, Coluzzi E, Marinaccio J, Sgura A, Bei R, **Benvenuto M**, Modesti A, Masuelli L, Lista F. *Biological effects of 25 to 150 GHz radiation after in vitro exposure of human fibroblasts: a comparison of experimental results.* Journal of Infrared, Millimeter, and Terahertz Waves. 2018; 39(9): 899-911.
7. Franchini V, Regalbuto E, De Amicis A, De Sanctis S, Di Cristofaro S, Coluzzi E, Marinaccio J, Sgura A, Ceccuzzi S, Doria A, Gallerano GP, Giovenale E, Ravera G, Bei R, **Benvenuto M**, Modesti A, Masuelli L, Lista F. *Genotoxic effects in human fibroblasts exposed to microwave radiation.* Health physics. 2018 Jul;115(1):126-139.
8. Franchini V, De Sanctis S, Marinaccio J, De Amicis A, Coluzzi E, Di Cristofaro S, Lista F, Regalbuto E, Doria A, Giovenale E, Gallerano GP, Bei R, **Benvenuto M**, Masuelli L, Udroui I, Sgura A. *Study of the effects of 0.15 Terahertz radiation on genome integrity of adult fibroblasts.* Environ Mol Mutagen. 2018 Jul; 59(6):476-487.
9. Masuelli L, Granato M, **Benvenuto M**, Mattera R, Bernardini R, Mattei M, d'Amati G, D'Orazi G, Faggioni A, Bei R, Cirone M. *Chloroquine supplementation increases the cytotoxic effect of curcumin against Her2/neu overexpressing breast cancer cells in vitro and in vivo in nude mice while counteracts it in immune competent mice.* OncoImmunology. 2017 Jul 31; 6(11): e1356151.
10. Masuelli L, **Benvenuto M**, Mattera R, Di Stefano E, Zago E, Taffera G, Tresoldi I, Giganti MG, Frajese GV, Berardi G, Modesti A, Bei R. *In vitro and In vivo anti-tumoral effects of the flavonoid apigenin in malignant mesothelioma.* Front Pharmacol. 2017 Jun 19;8:373.
11. Mattera R, **Benvenuto M**, Giganti MG, Tresoldi I, Pluchinotta FR, Bergante S, Tettamanti G, Masuelli L, Manzari V, Modesti A, Bei R. *Effects of polyphenols on oxidative stress-mediated*

- injury in cardiomyocytes*. *Nutrients*. 2017 May 20;9(5). pii: E523. Review.
12. **Benvenuto M**, Mattera R, Masuelli L, Tresoldi I, Giganti MG, Frajese GV, Manzari V, Modesti A, Bei R. *The crossroads between cancer immunity and autoimmunity: antibodies to self antigens*. *Front Biosci (Landmark Ed)*. 2017 Mar 1;22:1289-1329. Review.
 13. Masuelli L, **Benvenuto M**, Di Stefano E, Mattera R, Fantini M, De Feudis G, De Smaele E, Tresoldi I, Giganti MG, Modesti A, Bei R. *Curcumin blocks autophagy and activates apoptosis of malignant mesothelioma cell lines and increases the survival of mice intraperitoneally transplanted with a malignant mesothelioma cell line*. *Oncotarget*. 2017 May 23;8(21):34405-34422.
 14. **Benvenuto M**, Mattera R, Masuelli L, Taffera G, Andracchio O, Tresoldi I, Lido P, Giganti MG, Godos J, Modesti A, Bei R. *(±)-Gossypol induces apoptosis and autophagy in head and neck carcinoma cell lines and inhibits the growth of transplanted salivary gland cancer cells in BALB/c mice*. *Int J Food Sci Nutr*. 2017 May;68(3):298-312.
 15. Frajese GV, **Benvenuto M**, Fantini M, Ambrosin E, Sacchetti P, Masuelli L, Giganti MG, Modesti A, Bei R. *Potassium increases the antitumor effects of ascorbic acid in breast cancer cell lines in vitro*. *Oncol Lett*. 2016 Jun;11(6):4224-34.
 16. **Benvenuto M***, Mattera R*, Taffera G, Giganti MG, Lido P, Masuelli L, Modesti A, Bei R. *The Potential Protective Effects of polyphenols in asbestos-mediated inflammation and carcinogenesis of mesothelium*. *Nutrients* 2016 May 9;8(5). pii: E275. *Co-first authors. Review.
 17. Masuelli L, Pantanella F, La Regina G, **Benvenuto M**, Fantini M, Mattera R, Di Stefano E, Mattei M, Silvestri R, Schippa S, Manzari V, Modesti A, Bei R. *Violacein, an indole-derived purple-colored natural pigment produced by *Janthinobacterium lividum*, inhibits the growth of head and neck carcinoma cell lines both in vitro and in vivo*. *Tumour Biol*. 2016 Mar; 37(3):3705-17.
 18. **Benvenuto M***, Masuelli L*, De Smaele E, Fantini M, Mattera R, Cucchi D, Bonanno E, Di Stefano E, Frajese GV, Orlandi A, Screpanti I, Gulino A, Modesti A, Bei R. *In vitro and in vivo inhibition of breast cancer cell growth by targeting the Hedgehog/GLI pathway with SMO (GDC-0449) or GLI (GANT-61) inhibitors*. *Oncotarget* 2016 Feb 23; 7(8):9250-70. *Co-first authors.
 19. De Amicis A, Sanctis SD, Cristofaro SD, Franchini V, Lista F, Regalbuto E, Giovenale E, Gallerano GP, Nenzi P, Bei R, Fantini M, **Benvenuto M**, Masuelli L, Coluzzi E, Cicia C, Sgura A. *Biological effects of in vitro THz radiation exposure in human foetal fibroblasts*. *Mutat Res Genet Toxicol Environ Mutagen*. 2015 Nov;793:150-60.
 20. Fantini M, **Benvenuto M**, Masuelli L, Frajese GV, Tresoldi I, Modesti A, Bei R. *In vitro and in vivo antitumoral effects of combinations of polyphenols, or polyphenols and anticancer drugs: perspectives on cancer treatment*. *Int J Mol Sci*. 2015 Apr 24;16(5):9236-82. Review.
 21. **Benvenuto M**, Sileri P, Rossi P, Masuelli L, Fantini M, Nanni M, Franceschilli L, Sconocchia G, Lanzilli G, Arriga R, Faggioni G, Lista F, Orlandi A, Manzari V, Gaspari AL, Modesti A, Bei R. *Natural humoral immune response to ribosomal P0 protein in colorectal cancer patients*. *J Transl Med*. 2015 Mar 28;13:101.
 22. Masuelli L, Di Stefano E, Fantini M, Mattera R, **Benvenuto M**, Marzocchella L, Sacchetti P, Focaccetti C, Bernardini R, Tresoldi I, Izzi V, Mattei M, Frajese GV, Lista F, Modesti A, Bei R.

- Resveratrol potentiates the in vitro and in vivo anti-tumoral effects of curcumin in head and neck carcinomas.* Oncotarget 2014 Nov 15; 5(21):10745-62.
23. Masuelli L, Fantini M, **Benvenuto M**, Sacchetti P, Giganti MG, Tresoldi I, Lido P, Lista F, Cavallo F, Nanni P, Schlom J, Modesti A, Bei R. *Intratumoral delivery of recombinant vaccinia virus encoding for ErbB2/Neu inhibits the growth of salivary gland carcinoma cells.* J Transl Med. 2014 May 10;12:122.
 24. Tresoldi I, Oliva F, **Benvenuto M**, Fantini M, Masuelli L, Bei R, Modesti A. *Tendon's ultrastructure.* Muscles Ligaments Tendons J. 2013 May 21; 3(1):2-6.
 25. **Benvenuto M**, Fantini M, Masuelli L, De Smaele E, Zazzeroni F, Tresoldi I, Calabrese G, Galvano F, Modesti A, Bei R. *Inhibition of ErbB receptors, Hedgehog and NF-kappaB signaling by polyphenols in cancer.* Front Biosci (Landmark Ed) 2013 Jun 1; 18:1290-310. Review.
 26. Masuelli L, **Benvenuto M**, Fantini M, Marzocchella L, Sacchetti P, Di Stefano E, Tresoldi I, Izzi V, Bernardini R, Palumbo C, Mattei M, Lista F, Galvano F, Modesti A, Bei R. *Curcumin induces apoptosis in breast cancer cell lines and delays the growth of mammary tumors in neu transgenic mice.* J Biol Regul Homeost Agents 2013 Jan-Mar; 27(1):105-19.
 27. Ingrosso G, Fantini M, Nardi A, **Benvenuto M**, Sacchetti P, Masuelli L, Ponti E, Frajese GV, Lista F, Schillaci O, Santoni R, Modesti A, Bei R. *Local radiotherapy increases the level of autoantibodies to ribosomal P0 protein but not to heat shock proteins, extracellular matrix molecules and EGFR/ErbB2 receptors in prostate cancer patients.* Oncol Rep. 2013 Mar; 29(3): 1167-74.
 28. Turriziani M, Fantini M, **Benvenuto M**, Izzi V, Masuelli L, Sacchetti P, Modesti A, Bei R. *Carcinoembryonic antigen (CEA)-based cancer vaccines: recent patents and antitumor effects from experimental models to clinical trials.* Recent Pat Anticancer Drug Discov. 2012 Sep; 7(3): 265-96. Review.
 29. Masuelli L, Marzocchella L, Focaccetti C, Tresoldi I, Palumbo C, Izzi V, **Benvenuto M**, Fantini M, Lista F, Tarantino U, Modesti A, Galvano F, Bei R. *Resveratrol and diallyl disulfide enhance curcumin-induced sarcoma cell apoptosis.* Front Biosci (Landmark Ed) 2012 Jan 1; 17:498-508.
 30. Marzocchella L*, Fantini M*, **Benvenuto M***, Masuelli L, Tresoldi I, Modesti A, Bei R. *Dietary flavonoids: molecular mechanisms of action as anti-inflammatory agents.* Recent Pat Inflamm Allergy Drug Discov. 2011 Sep; 5(3):200-20. *Co-first authors. Review.

Conference Papers

- G.P. Gallerano, A. Doria, E. Giovenale, A. De Amicis, S. De Sanctis, S. Di Cristofaro, V. Franchini, F. Lista, E. Regalbuto, A. Sgura, E. Coluzzi, J. Marinaccio, R. Bei, M. Fantini, **M. Benvenuto**, L. Masuelli. *Effects of mm-waves on human fibroblasts in-vitro.* IRMMW-THz 2015 - 40th International Conference on Infrared, Millimeter, and Terahertz Waves; University of Hong Kong; China; 23-28 August 2015
- G.P. Gallerano, E. Giovenale, P. Nenzi, A. De Amicis, S. De Sanctis, S. Di Cristofaro, V. Franchini, F. Lista, E. Regalbuto, A. Sgura, E. Coluzzi, R. Bei, M. Fantini, **M. Benvenuto**, L. Masuelli. *Effects of THz radiation on human fibroblasts in-vitro: Exposure set-up and biological endpoints.* IRMMW-THz 2014 – 39th International Conference on Infrared, Millimeter, and Terahertz Waves; University of Arizona Tucson; United States; 14-19 September 2014.

- Congress and Meeting** XXIX A.M.I.O.T. Congress, CNR Bologna, 30/06/2018.
Invited speaker - “*In vitro* effects of Galium-Heel on human dermal fibroblasts”
- Thesis Co-Supervisor**
(MED/04) Bachelor degree in Dietician, University of Rome “Tor Vergata”
Bachelor degree in Biomedical Laboratory Techniques, University of Rome “Tor Vergata”
Master degree in Science of Human Nutrition, University of Rome “Tor Vergata”
Master degree in Medical Biotechnology, University of Rome “Tor Vergata”
- Editorial collaborations** **Guest Editor** of *International Journal of Molecular Sciences*, for the Special Issue “*The Effect of Dietary Factors on Cancer*” (from March 2018)

I give the authorization for the treatment of my personal data

Monica Benvenuto