

PERSONAL INFORMATION	Rossella Daniela Bengalli
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	https://www.scopus.com/authid/detail.uri?authorld=55614024200https://www.unimib.it/rossella-
	daniela-bengalli, https://boa.unimib.it/simple-search/query=bengalli
	Sex Female Date of birth 12/01/1984 Nationality Italian
WORK EXPERIENCE	
01/09/2023 – Ongoing	Researcher (RTDA-PNRR) in cell biology (BIO06: Anatomia comparata e citologia)
	University of Milano-Bicocca, Italy, Milano (Italy)
	Research and teaching activities at the Dept. of Environmental Sciences and Earth. Evaluation of the potential impacts of airborne pollutants and nanomaterials on human health and environment. Mechanisms of toxicity in <i>in vitro</i> models of the lungs. Communication of obtained results to scientific bodies, preparation of project and grant reports. Drafting of reports, publications and administrative documents. Main projects: BIOMAT: An Open Innovation Test Bed for Nano-enabled Bio-based PUR Foams and Composites (H2020-EU)' (ongoing); MUSA – Multilayered Urban Sustainability Action, Spoke 1 (ongoing).
13/01/2020 - 12/07/2023	Technologist
	Dept. of Earth and Environmental Sciences, University of Milano-Bicocca, Italy, Milano (Italy)
	Main activities: nanosafety evaluation of new nanomaterials and nano-enabled products through a safe-by-design (SSbD) approach. Activities of student formation, dissemination of results at international conferences, writing of scientific papers. Monitoring field campaigns for the evaluation of airborne particles emission from industrial processes, road traffic, asphalts industries. Writing of scientific reports, presentations and deliverables for European projects. Projects title: 'PROTECT - Pre-commercial lines for production of surface nanostructured antimicrobial and anti-biofilm textiles, medical devices and water treatment membranes (H2020)' (finished); 'BIOMAT – An Open Innovation Test Bed for Nano-enabled Bio-based PUR Foams and Composites (H2020-EU)' (ongoing)
01/11/2010-31/12/2011	Post-graduate research internship
	Department of Earth and Environmental Sciences, University of Milano-Bicocca., Milano (Italy)
	Main activities: cell culture in Biosafety Level 2 Laboratory, cells differentiation and co-cultures, transepithelial electrical resistance (TEER) measurements, set-up of an <i>in vitro</i> model of the air-blood barrier. Preparation of airborne particles and following <i>in vitro</i> exposures, experiments and evaluation of the cellular effects. Project title: 'Human co-cultures: generation <i>in vitro</i> of a hemato-alveolar barrier model with immortalized cell lines in Biosafety Level 2 Laboratory', funded by Cariplo Foundation (Project: TOSCA).
TEACHING ACTIVITIES	S
April – May 2023	Assistant Professor (Temporary)
	University of Milano Bicocca, Dept. of Earth and Environmental Sciences, Milano (Italy)
Doc 2022 Jan 2022	Teaching course: Laboratorio per l'analisi della qualità Biologica (LAUREA TRIENNALE IN SCIENZE E TECNOLOGIE PER L'AMBIENTE) (ssd BIO/07). Activities: lessons about use of cell <i>in vitro</i> models for the evaluation of the toxicity of contaminants (e.g. from water samples). Biological samples preparation for biochemical and microscopic analyses.
Dec 2022 – Jan 2023 Dec 2021 – Jan 2022	Assistant Professor (Temporary)
	University of Milano Bicocca, Dept. of Earth and Environmental Sciences, Milano (Italy)

Teaching course: Biologia Ambientale Applicata (LAUREA MAGISTRALE IN SCIENZE E



Curriculum vitae

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TECNOLOGIE PER L'AMBIENTE E IL TERRITORIO) (ssd BIO/06). Activities: lessons and lab activities about 3R principles, alternative *in vitro* methods, biological samples preparation for biochemical and microscopic analyses, basic principles of nanotoxicology and microplastics toxicity, FET test, Alamar Blue assay, cytological staining for microscopy observations.

01/01/2011–11/2014 Assistant Professor (Temporary)

University of Milano Bicocca, Dept. of Earth and Environmental Sciences, Milano (Italy)

Teaching: Animal and Cellular Biology, Cell Biology Module (TUGLB),

December 2011 – January 2012; October 2012 - November 2012; October 2013 – November 2013. Main activities: theoretical and practical lessons regarding microscopy, viability tests, cell cultures, histology. Lecture about Nanoparticles entitled 'Nanoparticles (NPs): environmental impact and risk for human health'.

11/10/2018-30/09/2019 Tutor

University of Milano Bicocca, Milano (Italy)

Tutor-ship for the courses Cellular Biology (Biologia Cellulare) for the course 'Scienze e Tecnologie per l'Ambiente' and Comparative Anatomy and Cytology (Anatomia comparata e Citologia) for the Course of 'Scienze Biologiche'.

PLS – Laboratory activities (Piano Lauree Scientifiche) for highschool students. Teaching activities regarding histological samples preparation and observation.

EDUCATION AND TRAINING

01/01/2015-31/12/2019 Post Doc

POLARIS Research Centre, Dept. of Earth and Environmental Sciences, University of Milano-Bicocca, Italy, Milano (Italy)

Main activities: 2D and 3D *in vitro* systems, cell culture maintenance and exposure to particulate matter, ultrafine particles and metallic nanoparticles; particles sampling and characterization; monocultures and co-cultures systems representative of the lung; exposure to aerosols with CULTEX air-liquid interface (ALI) system. Monitoring campaigns for the evaluation of airborne particles emission.

Project titles: 'Ultrafine particles emission sources: biological effects on *in vitro* systems'. Project title: 'Biological effects and human health impacts of ultrafine particles sources', funded by Cariplo Foundation.

01/01/2012–31/12/2014 Ph.D in Biology

University of Milano Bicocca, Milano (Italy)

Project title: "*In vitro* models of the respiratory barrier: a case study on zinc oxide nanoparticles'. Date of Ph.D. Thesis Defense: 09/02/2015.

From 15/01/2014–13/04/2014: Short Term Scientific Mission (STSM) supported by MODENA Cost Action (Awarded with the Grant with the reference code: COST-STSM-TD1204-140114-040228) at Comprehensive Pneumology Center, Institute of Lung Biology and Disease (iLDB), Helmholtz Zentrum München – German Research Center for Environmental Health, Munich (Germany) under the supervision of Prof. Tobias Stöger.

01/09/2007–01/03/2010 Master Degree in Biology Applied to Medical Research

University of Milano, Milano (Italy)

Thesis title: Effects of epigenetic drugs on CD146 and ICAM-1 expression in human melanoma cell lines' (110/110), date of Thesis Defense: 01/03/2010.

01/09/2003–29/03/2007 First Level Degree in Biological Sciences

University of Milano, Milano (Italy)

Title of thesis: 'Generation, maintenance and characterization of primary cultures derived from surgical samples of glial tumors' (103/110), date of Thesis Defence 29/03/2007. Thesis done at The Foundation of the Carlo Besta Neurological Institute, IRCCS, Milano, (Italy).

PERSONAL SKILLS

Mother tongue(s) Italian Foreign language(s) English (C1)

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Bibliometric information	Scopus: H-Index: 15, Total citations: 616 Google Scholar: H-Index: 16, i10-index: 18, Citations: 781	
Memberships	Member of: POLARIS Research Centre – Environmental health and sustainability www.polaris.unimib.it; Nanomib (<u>https://nanomedicine.unimib.it/contacts/nanotoxicology-</u> <u>and-nanosafety</u>); Centro 3R – Centro Interuniversitario per la promozione dei principi delle 3R nella Didattica e nella Ricerca <u>https://www.centro3r.it/</u>	
ADDITIONAL INFORMATION		
	Scientific member of research and collaboration projects.	
	Scientific referent and member for work packages in H2020 funded proje	ects.

Reviewer for International Journals: such as, but not limited to, Toxicology in Vitro, Environmental Research, Toxicology Letters, Toxics, Particle and Fiber Toxicology, Scientific Reports, Environmental Advances.

Publications and meetings

Authors of 31 papers on peer reviewed international journals, relator in several national and international conferences.

Selected papers of relevance for the project:

- Motta G, Gualtieri M, Bengalli R, Saibene M, Belosi F, Nicosia A, Cabellos J, Mantecca P. An integrated new approach methodology for inhalation risk assessment of safe and sustainable by design nanomaterials. Environment International, 2024, 183, 108420. ISSN 0160-4120, https://doi.org/10.1016/j.envint.2024.108420.
- Bengalli RD*#, Zerbi G#, Lucotti A, Catelani T, Mantecca P. Carbon nanotubes: Structural defects as stressors inducing lung cell toxicity. Chem Biol Interact. 2023 Sep 1;382:110613. doi: 10.1016/j.cbi.2023.110613.
- 3. Zerboni A, Rossi T, **Bengalli R**, Catelani T, Rizzi C, Priola M, Casadei S, Mantecca P. Diesel exhaust particulate emissions and *in vitro* toxicity from Euro 3 and Euro 6 vehicles. *Env. Pollution*, March 2022, Volume 29715, Article number 118767. Doi: 10.1016/j.envpol.2021.118767
- Zerboni A, Bengalli R, Fiandra L, Catelani T, Mantecca P. Cellular Mechanisms Involved in the Combined Toxic Effects of Diesel Exhaust and Metal Oxide Nanoparticles. *Nanomaterials* (Basel). 2021 May 29;11(6):1437. doi:10.3390/nano11061437.
- 5. Bengalli R*, Zerboni A, Marchetti S, Longhin E, Priola M, Camatini M, Mantecca P. *In vitro* pulmonary and vascular effects induced by different diesel exhaust particles. *Toxicol Lett.* 2019 May 15;306:13-24. doi:10.1016/j.toxlet.2019.01.017.
- Grilli A, Bengalli R[#], Longhin E[#], Capasso L, Proverbio MC, Forcato M, Bicciato S, Gualtieri M, Battaglia C, Camatini M. Transcriptional profiling of human bronchial epithelial cell BEAS-2B exposed to diesel and biomass ultrafine particles. BMC Genomics. 2018 Apr 27;19(1):302. doi: 10.1186/s12864-018-4679-9.
- 7. Bengalli R*, Ferri E, Labra M, Mantecca P. Lung Toxicity of Condensed Aerosol from E-CIG Liquids: Influence of the Flavor and the *In vitro* Model Used. *Int J Environ Res Public Health.* 2017 Oct 20;14(10). pii: E1254. doi: 10.3390/ijerph14101254
- Bengalli R*, Longhin E, Marchetti S, Proverbio MC, Battaglia C, Camatini M. The role of IL-6 released from pulmonary epithelial cells in diesel UFP-induced endothelial activation. *Environ Pollut.* 2017 Sep 12. pii: S0269-7491(17)30626-7. doi: 10.1016/j.envpol.2017.08.104.
- Bengalli R*, Gualtieri M, Capasso L, Urani C, Camatini M. Impact of zinc oxide nanoparticles on an *in vitro* model of the human air-blood barrier. *Toxicol Lett.* 2017 Sep 5;279:22-32. Doi: <u>https://doi.org/10.1016/j.toxlet.2017.07.877</u>. *Environ Pollut.* 2016 Aug; 215:366-375. doi: 10.1016/j.envpol.2016.05.015.
- 10. Bengalli R, Mantecca P, Camatini M, Gualtieri M. Effect of nanoparticles and environmental particles on a cocultures model of the air-blood barrier. *BioMed Res Int.* 2013;2013:801214. doi: 10.1155/2013/801214.

Relevant ongoing Research projects:

- BIOMAT: An Open Innovation Test Bed for Nano-Enabled Bio-Based PUR Foams and Composites (H2020-NMBP-TO-IND-2018-2020) (2021-2024). Member of WP7 Recycling technologies, nanosafety and regulatory issues.
- "MUSA Multilayered Urban Sustainability Action" (Codice identificativo ECS00000037), Spoke 1
- Multidimensional Integrated Quantitative Approach To Assess Safety And Sustainability Of Nanomaterials In Real Case Life Cycle Scenarios Using Nanospecific Impact Categories INTEGRANO Project 101138414 2024- 2027
- Advanced nano encapsulation of bio-based pesticides and fertilisers for a circular and sustainable viticulture VINNY Project 101130039 2024-2028

PERSONAL DATA

Le dichiarazioni rese nel presente curriculum sono da ritenersi rilasciate ai sensi degli art. 46 e 47 del D.P.R. 445/2000. I authorize the use of personal data reported in this Curriculum vitae according to art. 13 GDPR 679/2016

Milano, 07 November 2024

Signature

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