

PERSONAL INFORMATION



Annamaria Costa

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WORK EXPERIENCE

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|-------------------------------|--|
| March 2017 to present | Assistant professor (Ricercatore a tempo determinato (b), SSD AGR/09, SC 07C1),

Università degli Studi di Milano, Dipartimento di scienze veterinarie per la salute, la produzione Animale e la sicurezza alimentare (VESPA) |
| December 2013 – December 2016 | Assistant professor (Ricercatore a tempo determinato (a), SSD AGR/09, SC 07C1)

Università degli Studi di Milano, Dipartimento di scienze veterinarie per la salute, la produzione Animale e la sicurezza alimentare (VESPA) |
| June 2011 - April 2013 | Post-doctoral fellow, Biogesteca project, Università degli Studi di Milano |
| May 2010 - April 2011 | Graduate technician (D), for research activity for the Sounds Good project, Università degli Studi di Milano |
| June 2008 – April 2010 | Graduate technician (D), for research activity for the PhARM project (Photocatalytic Ammonia Reduction in Manure), Università degli Studi di Milano |
| April 2005 – January 2008 | Post-doctoral fellow for the project: Measurements of particulate matter (PM ₁₀), greenhouse gasses (nitrous oxide, methane and carbon dioxide) from pig and poultry farms and data analysis for evaluation of bat (Best Available Techniques) in their emission abatement, Università degli Studi di Milano |
| October 2003 – March 2005 | Post-doctoral fellow for the project MEP (Emissione di polveri, PM ₁₀ , dagli allevamenti suinicoli- PM ₁₀ emission from pig husbandry), Università degli Studi di Milano |
| November 1999- October 2002 | Fellow in the Specialization school in Animal Nutrition, Università degli Studi di Milano |

EDUCATION AND TRAINING

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|------------------------------|---|
| November 1999 - October 2002 | <p>Specialization in Animal Nutrition.
 Università degli Studi di Milano</p> <p>Title of the thesis: Analysis of some physical characteristics and dust emission of swine diets in relation to formulation and grinding type.</p> |
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- November 1995 – October 1998 Ph. D in Nutrition and technologies of livestock farming
 Università degli studi del Molise
 Title of the thesis: Effect of a ionophore antibiotic on growth rate and some blood parameters of Friesian Holstein heifers.
- June 1995 Qualification (Abilitazione) as Agronomist (Animal Scientist)
 Università degli Studi di Milano
- March 1995 Graduation (Laurea) in Animal sciences
 Università degli Studi di Milano

PERSONAL SKILLS

Mother tongue Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken Interaction	Spoken Production	
English	B2	C1	C1	B2	C1
French	A1	A1	A1	A1	A1

Professional and academic skills

Teaching in the courses of “Renewable energies and energetic saving in agro-zootechnical systems”, “Animal buildings and plants”.

My research topics are addressed to the environmental impact of livestock production on air quality as concentrations and emissions of dust and gases (ammonia and GHG or greenhouse gases), on pollution remediation techniques in air and on wastewater treatment, to the influence of buildings design and plants on animal welfare and production.

I work on sensors development and application to livestock, agriculture and nutrition. In the last years I studied the effect of environmental pollution raised by heavy metals on honeybees.

In 2010 I was acknowledged by the International Board of the IPCC group (Intergovernmental Panel on Climate Change) for the studies on livestock farming environmental impact. Methane (ID 421096) and nitrous oxide (ID 421097) emission factors from manure management for swine husbandry are published on the Emission Factor Database (EFDB) of the GHG gases (http://www.ipcc-nggip.iges.or.jp/EFDB/ef_detail.php).

1. Costa Annamaria. Definition of emission factor for nitrous oxide (N2O) from manure management for swine husbandry. ID 421097: http://www.ipcc-nggip.iges.or.jp/EFDB/find_ef_main.php. Emission Factor Database. IPCC, Intergovernmental panel on Climate Changes EFDB

2. Costa Annamaria. Definition of emission factor for methane (CH4) from manure management for swine husbandry. ID 421096: http://www.ipcc-nggip.iges.or.jp/EFDB/find_ef_main.php Emission Factor Database. IPCC, Intergovernmental panel on Climate Changes EFDB

I'm co- inventor of the following patents:

- 1- WO 2010/086891 Photocatalytic treatment system and plant for reducing the nitrogen content in livestock waste"
- 2- WO/2008/154662. Recognition and localisation of pathologic animal and human sounds.

Since November 2008: member of the Expert Panel on Mitigation of Agricultural Nitrogen (EPMAN), set up under the Task Force on Reactive Nitrogen. Accessible at <http://www.clrtap-tfrn.org/node/29>

Since 2016: consulting expert in emission factors from livestock for "Aether" (UK) during the progress of the project "Continued improvements of inventory methodologies", for the European Commission, aiming to update the EMEP/EEA air pollutant emission.

Reviewer for International journals:

Transactions of the ASABE, Journal of Animal Science, Agriculture, Ecosystems and Environment Biosystems Engineering, Journal of Dairy Science, Atmospheric Environment, Journal of Nanomaterials, Journal of Environmental Management, Livestock Science, Open Veterinary, Journal Animal Behaviour, International Journal of Occupational Medicine and Environmental Health, Computers and Electronics in Agriculture, Iranian Journal of Animal Science, Journal of Health Animal Science and Food Safety, Aerosol and Air Quality Research, Automatica, Atmosphere, Environmental Science and Pollution Research.

ADDITIONAL INFORMATION**Some recent publications**

- Costa A., Agazzi A., Perricone V., Savoini G., Lazzari M., Nava S., Tangorra F.M. 2019. Influence of different loading levels, cutting and mixing times on total mixed ration (TMR) homogeneity in a vertical mixing wagon during distribution: a case study. *Italian Journal of Animal Science*, 18:1, 1093-1098
- Sala V., Gusmara C., C. Zolin C., Costa A. 2019. Piglets crushing rate related to sow foot lesions in the farrowing room. *Large Animal Review*. 25: 55-60.
- Costa A., Veca M., Barberis M., Tosti A., Notaro G., Nava S., Lazzari M., Agazzi A., Tangorra F.M., (2019). Heavy metals on honeybees indicate their concentration in the atmosphere. a proof of concept. *Italian Journal of Animal Science*, 18 (1): 309-315.
- Costa A., Domeneghini C. (2018). Pollutants in livestock buildings: Ammonia and dust interplay with the respiratory tract. In: (a cura di): T. Banhazi;A. Aland and J. Hartung, *Air quality and livestock farming*. p. 49-58, London, UK:CRC Press, ISBN: 9781138027039.
- Consigliere R., Costa A., Meloni D. 2018. Effects of vermiculite-based additives on macroscopic lung lesions, carcass traits and meat quality in finishing pigs. *Large animals review*, vol. 24, p. 195-199.
- Costa (2017). Ammonia Concentrations and Emissions from Finishing Pigs Reared in Different Growing Rooms. *Journal of Environmental Quality*, vol. 46, p. 255-260.
- Costa, F.M. Tangorra, M. Zaninelli, R. Oberti, A. Guidobono Cavalchini, G. Savoini, M. Lazzari (2016). Evaluating an e-nose ability to detect biogas plant efficiency: a case study. *Italian Journal of Animal Science*, vol. 15, p. 116-123.

ANNEXES**Personal Information**

I authorize the handling of personal information in this curriculum, according to D.Lgs n. 196/03 and following modifications and Regulations EU 679/2016 (General Regulations concerning Data Protection or GRDP) and art. 7 of University Regulations concerning protection of personal information. I authorize, according to D.lgs 14/03/2013 n. 33 concerning transparency, in case of conferment of the position and of the fellowship, the publication of this curriculum in the web site of Università degli Studi di Milano in the section "Amministrazione trasparente", "Consulenti e collaboratori"

September 1, 2019