Francesca Abbona

Curriculum Vitae

Education

Oct 2017-Present	**Ph.D in Veterinary Sciences for Animal Health and Food Safety**.
	Università degli Studi di Torino, Grugliasco, Torino
Supervisor	Prof. Mario Dante Lucio Giacobini
Project	*Development of information systems in precision farming for the rearing of Piedmontese bovines*

The Piemontese cattle breeding is of an intensive meat type, suitable for grazing, that allows the enhancement of the territory and the commercial chain. The objective of the project, in collaboration with ANABORAPI (National Association of Bovine Breeders of Piedmontese Breed), is a technical analysis of farm processes, with the development of monitoring tools and the highlighting of synthetic critical points. A multi-objective analysis is performed with Machine Learning techniques, with the aim of modeling the farm's management performance.

2012-2014	**Master of Science in Mathematics**, *Numerical-modelling course*.
	Università degli Studi di Torino, Torino (2015, 15 april).
Thesis	*Models for swine-human E-HEV transmission*

2007-2012	**Bachelor of Science in Mathematics**.
	Università degli Studi di Torino, Torino (2012, 19 july).
Thesis	*Geodetiche e alcune applicazioni*

2007	**Linguistic High School Diploma**, *Liceo linguistico "E. De Amicis"*, Cuneo.

Professional Experience

Mar 2018-Present	**Employee - "Research and Development" Office**.
	ANABORAPI National Association of Piedmontese cattle breeders, Carrù

Jan 2020-Apr 2020	**PhD stays abroad**.
May 2019-Aug 2019	NOVA IMS, Universidade Nova de Lisboa, Lisbon, Portugal

Under the supervision of Professor Leonardo Vanneschi, Machine Learning approaches are investigated to evaluate and optimize Beef Farms performance. The production of Piedmontese calves for fattening purposes and for the calf's reproductive career is analysed. In particular, influential variables available in the dataset are examined. Useful predictors to measure economic performance of beef livestock farms are shaped on the data, identifying the most key-role factors.

Oct 2015-Apr 2018	**Mathematics, phisycs, IT Teacher**.
	Istituto Paritario A. Vespucci, Liceo Scientifico e Tecnico Turistico, Cuneo

Research areas of interest

Keywords	Mathematical Modeling, Data Management, Applied Mathematics, Machine Learning, Beef Cattle Management, Ecoepidemiological Models, Biological Systems.

Computer skills

Operative systems	Microsoft Windows, Linux.
Program languages and Application	Harbour, Javascript, HTML, CSS, MATLAB, LaTeX, R, Sas, Microsoft Office tools, SQL Server Management, Visual Studio, Maple.

Courses and Conferences

2020, Jul 19th-24th	**IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE (WCCI) 2020**, *Virtual Conference*, originally planned in Glasgow, Scotland.
2020, Apr 15th-17th	**EvoStar 2020**, *Virtual Conference*, originally planned in Seville, Spain.
2018,May 24th-25th	**Statistic and Data Science: new developments for business and industrial applications**, *conference held by Politecnico and Università degli studi di Torino*, Torino, Italy.
2018, May 3rd-4th	**Seminari Padovani di Analisi Numerica SPAN 2018**, *workshop held by Department of Mathematics Tullio Levi-Civita, Università degli studi di Padova*, Padova, Italy.
2018, Feb 7th-9th	**Ninth Workshop Dynamical Systems Applied to Biology and Natural Sciences DSABNS 2018**, *held by Department of Mathematics Giuseppe Peano, Università degli studi di Torino* , Torino, Italy.
2016, Nov 16th-17th	**Franco-Italian Mathematical Ecology Days**, *International workshop held by Università degli studi di Torino*, Torino, Italy.
2016, Feb 5th	**Kernel-based methods and function approximation**, *Miniworkshop held by Università degli studi di Torino*, Torino, Italy.
2014-2015	**Some recent models in mathematical biology**, *Ph.D. course held by Professor Ezio Venturino at Università degli studi di Torino*, Torino, Italy.

Publications

○ Abbona F., Vanneschi L., Bona M., Giacobini M., *Towards modelling beef cattle management with Genetic Programming*, Livestock Science, Volume 241, November 2020. https://doi.org/10.1016/j.livsci.2020.104205

○ Abbona F., Vanneschi L., Bona M., Giacobini M., *A GP approach for precision farming*, 2020 IEEE Congress on Evolutionary Computation (CEC) Proceedings, virtual coference originally planned in Glasgow, Scotland (2020).

○ Abbona F., Venturino E., *An eco-epidemic model for infectious keratoconjunctivitis caused by Mycoplasma conjunctivae in domestic and wild herbivores, with possible vaccination strategies*, Math. Meth. Appl. Sci. (2016), doi: 10.1002/mma.4209.

○ Francesca Abbona, Ezio Venturino, *An ecoepidemic predator-prey model with prey vaccination*, CMMSE

2016: Proceedings of the 15th International Conference on Mathematical Methods in Science and Engineering - Rota, Spain. vol. 1, 1-12, 2016 ISBN: 978-84-608-6802-2

Presentations and Contributed Talks

- *A GP approach for precision farming*, IEEE World Congress on Computational Intelligence. Virtual event, originally planned in Glasgow, Scotland, United Kingdom, July 19 th -24 th , 2020. Oral Presentation: https://2020.wcci-virtual.org/presentation/oral/gp-approach-precision-farming.

- *Infectious keratoconjunctivitis in the ungulates: an ecoepidemic model*, contributed talk at Franco-Italian Mathematical Ecology Days, Torino, November 2016.

Languages

Italian	**Mothertongue**	C2
English	**Advanced**	C1
French	**Intermediate**	B2