


## PERSONAL INFORMATION

## Dario Benedini



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Date of birth: 27/08/1997

## WORKING POSITION

Research Technician at Council for Agricultural Research and Economics, Research Centre for Animal Production and Aquaculture (CREA-ZA), Lodi, Italy

## QUALIFICATION

Master Degree in Food Science and Technology

## WORK EXPERIENCE

From 25/07/2023 to present

## Research Technician

Council for Agricultural Research and Economics, Research Centre for Animal Production and Aquaculture (CREA-ZA), Lodi (LO), Italy.

## Main activities and responsibilities:

- Use of a portable NIR spectrometer for on-line milk coagulation monitoring; use of lactodynamograph as reference method to measure milk coagulation parameters; multiway spectroscopic data modelling on MATLAB for curd firmness prediction; performing of single band analysis to predict milk coagulation time.
- Installation of activity meters and GPS devices on grazing cattle; processing of activity data and GPS data using QGIS software to determine feeding, rumination and resting areas during the grazing period.
- GC-MS analysis of milk and derivatives to measure volatile compounds content due to cows feeding during the summer grazing period.
- Determination of milk and derivatives composition using Kjeldahl method for protein content and Gerber method for fat content
- Monitoring of technological parameters during dairy transformations; use of MIR devices (both portables and bench instruments) to determine fat, protein and lactose content in milk and whey to evaluate the loss of dry matter during the cheesemaking process.
- Use of NIR portable devices for milk and fodder analysis
- Use of MODDE software for Design of Experiments
- Teaching activities within dairy sector courses
- Participation in scientific conferences and collaboration in dissemination activities

Sector: research

From 09/03/2023 to 24/07/2023

## Food Technologist

Whirlpool S.p.A., Biandronno (VA), Italy.

## Main activities and responsibilities:

- Reprogramming of ovens' electronic board to optimize cooking process reducing energy consumption while still ensuring good food cooking performance.



- Cooking tests on foods and simulants to evaluate ovens cooking performances; use of texture analysis and image analysis to evaluate cooking results.
- Use of power meters to measure energy consumption and to study heating elements working cycle.
- Use of thermocouples connected to data loggers for temperature monitoring in the different oven areas and in foods/simulators.
- Data processing and communication of results through reports and presentations

**Sector:** research and development

From April 2022 to December  
2022

### Curricular internship

Council for Agricultural Research and Economics, Research Centre for Animal Production and Aquaculture (CREA-ZA), Lodi (LO), Italy.

#### Main activities and responsibilities:

- Study of the effects of seasonal climatic conditions on Holstein-Friesian cow's milk and use of a feeding robot to evaluate the effects of an optimized cow's feed distribution to contrast heating stress during summer season.
- Use of meteorological data for THI (Temperature Humidity Index) calculation to evaluate cow's heat stress levels during summer.
- Sampling of Holstein-Friesian cow's bulk milk and individual milk during summer and autumn to compare the two seasons.
- Use of a MIR bench instrument for milk composition measurement.
- Use of Lactodynamograph for milk coagulation parameters measurements (coagulation time, curd firming-rate and curd firmness).
- Performing of laboratory experiments to study milk natural creaming.
- Recording of technological parameters from Grana cheese production processes during summer and autumn
- Seasonal comparison using t test on milk composition data, coagulation parameters, milk creaming data and Grana cheese production data.

**Sector:** research

From July 2019 to December  
2019

### Curricular internship

Local Health Authority, ATS dell'Insubria, Como (CO), Italy.

#### Main activities and responsibilities:

- Validation of school catering food plans through nutritional intake evaluation, correction of school catering food plans in compliance with the guidelines for correct nutrition.
- Data collection of the most common non-conformities detected in school catering food plans.
- Drafting of a report that highlight common non-conformities in school food plans, promoting the importance of a complete and balanced diet.

**Sector:** public health

## EDUCATION AND TRAINING

From October 2020 to December  
2022

### Master Degree in Food Science and Technology (LM-70)

University of Parma, Parma (PR), Italy.

**Degree grade:** 110/110 and honours

**Title of the thesis:** effects of heat stress on Holstein-Friesian lactating cows and evaluation of cheese-making quality of milk used to produce Grana cheese

#### Main topics covered:

- Food chemistry, including theoretical lessons and practical laboratory lessons.



- Chemometric techniques applied to food analysis.
- Food technology with focusing on dairy sector.
- Products and processes design for food industry.
- Structure and physical properties of foods.
- Food microbiology, including theoretical lessons and practical laboratory lessons.
- Food safety.
- Applied human nutrition.

From October 2016 to April 2020

## Bachelor in Catering Sciences and Technologies (L-26)

University of Milan, Milan (MI), Italy.

**Degree grade:** 97/110

**Title of the thesis:** monitoring of school catering food plans for the provinces of Como and Varese

**Main topics covered:**

- Food chemistry, including theoretical lessons and practical laboratory lessons.
- Food microbiology, including theoretical lessons and practical laboratory lessons.
- Biochemistry and biochemical analysis of foods
- Design and logistics of catering systems
- Biotic food contamination, food safety
- Food packaging
- Food legislation
- Human nutrition

From September 2011 to June 2016

## Linguistic High School

Paolo Giovio High School, Como (CO), Italy.

**Graduation vote:** 62/100

Linguistic High School focused on the study of English, Spanish and French.

### PERSONAL SKILLS

**Mother tongue** Italian

**Other languages**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
ESOL B1 Certificate					
Spanish	B2	B2	B2	B2	B2
DELE B2 Certificate					
French	B1	B1	B1	B1	B1

**Communication skills**

- Able to **share results through reports and presentations**. During my employment as food technologist at Whirlpool S.p.A. I used to share results weekly with my work group.
- Able to **work in a team** and communicate with the work group. During my employment as food technologist at Whirlpool S.p.A. I was part of a large working group, and I am currently part of a research group at CREA-ZA.



- **Experience as teacher** in technical courses related to dairy sector.

#### Managerial skills

- **Time management and activity planning skills**, acquired during the university period with study planning and subsequently consolidated in the workplace. Currently this skill is useful for planning the activities that I carry out within the research projects in which I am involved.

#### Professional skills

- Good **manual skills in laboratory**.
- Knowledge of **basic chemical analysis techniques**.
- Knowledge of the following **instrumental analytical techniques**: gas chromatography-mass spectrometry (GC-MS), NIR spectroscopy, MIR milk composition analyser (Milkoscan FT2), Lactodynamograph, Smartchem 200 chemistry analyser.
- **Data management and processing skills**
- Good **knowledge of dairy processes**. Able to monitor cheesemaking technological parameters.
- **Familiar with dairy cow farming field** both in stable and pasture.

#### Digital skills

SELF-ASSESSMENT				
Word processors	Spreadsheet	Presentation software	Problem solving	Programming languages (MATLAB, Excel Visual Basic, Arduino)
Proficient user	Proficient user	Proficient user	Proficient user	Basic user

- Excellent knowledge of **Microsoft Office suite**
- Knowledge of following software:
  - MATLAB (and PLS Toolbox)
  - MODDE
  - QGIS

#### ADDITIONAL INFORMATION

##### Oral presentations at scientific conferences **as relator**

- **Benedini, D.**, Strani, L., Cocchi, M., Cabassi, G. (2024). Multiway approach to milk coagulation using MicroNIR. SensorFINT Final Conference, Cordoba, Spain.
- Cabassi, G., **Benedini, D.**, Gasparini, A., Fuccella, R., Ferrè, C., Pricca, N., Povo, M. (2024). Monitoring of animal behaviour in alpine pasture by digital systems. 3rd EAAP Mountain Livestock Farming Systems Meeting, Clermont-Ferrand, France.

##### Oral presentations at scientific conferences **not as relator**

- Abeni, F., Marino, R., Petrer, F., Canevaro, G., Richichi, M., Carminati, D., Giraffa, G., Berzaghi, S., **Benedini, D.**, Tidona, F. (2023). Effects of different automated feeding management on milk traits and rumination time of dairy cows during hot season. Animal Science and Production Association (ASPA) 25th Congress, Bari, Italy.
- Tidona, F., **Benedini, D.**, Francolino, S., Brusa, G., Ghiglietti, R., Gasparini, A., Locci, F., Abeni, F., Giraffa, G. (2023). Impact of the hot season in northern Italy in the cheese-making process of grana-type cheese. 2nd International Conference on Food and Agricultural Sciences (ICFAS), Yogyakarta, Indonesia.

##### Poster presentations

- Povo, M., Monti, L., Pellizzola, V., **Benedini, D.**, Cabassi, G. (2024). Quality of milk produced by animals grazing on mountain pasture in the north of Italy. 3rd EAAP Mountain Livestock Farming Systems Meeting, Clermont-Ferrand, France.



- Tidona, F., **Benedini, D.**, Ghiglietti, R., Locci, F., Francolino, S., Brusa, G., Giraffa, G., Abeni, F. (2023). Effetti dello stress termico su bovine frisoni in lattazione e valutazione dell'attitudine casearia del latte destinato alla produzione di formaggio a pasta granulosa. 7° AITeL congress, Cremona, Italy.

#### Research Projects

- During the curricular internship at CREA-ZA I was involved in **AGRIDIGIT project** which aims to increase the efficiency of farms included in the milk supply chain using the approach and techniques of precision livestock farming.
- During my current employment at CREA-ZA I am involved in **PASCOLI-AMO project** in which pasture monitoring technologies are used in the upper Valchiavenna to enhance the Bitto dairy supply chain.

#### Teachings

- **Technical teaching on the topic "rennets and coagulants"**. Carried out as part of the COFODOAGR project for the training/updating of professors at agricultural technical institutes.
- **Technical teaching on the topic "Microbiological analysis and hygiene problems of dairy products"**. Carried out as part of the COFODOAGR project for the training/updating of professors at agricultural technical institutes.

#### Membership

- President of **"Associazione per l'Accoglienza dei Bambini di Chernobyl – OdV"**. This role involves carrying out the following activities: organization of fundraising events and initiatives, organization of stays in Italy for children and charity initiatives in Belarus and Ukraine.

#### Certifications

- English Certificate ESOL B1
- Spanish Certificate DELE B2
- Certificate of attendance at workplace prevention and safety training courses: module 1 – general training, module 2 – specific low risk training, module 3 – specific medium risk training.

#### Participation to Conferences/seminars

- 3rd EAAP Mountain Livestock Farming Systems Meeting, Clermont-Ferrand, France.
- SensorFINT Final Conference, Cordoba, Spain.
- 7° Dairy Congress organised by the Italian Association of Milk Technicians (AITeL) in Cremona, Italy.
- Seminar "120th Anniversary of the founding of the International Dairy Federation". Organised by the International Dairy Federation (FIL-IDF) at CIBUSTEC exhibition in Parma, Italy.
- Seminar "la sostenibilità nella filiera del latte" organised by Ferrero Mangimi at ZOOTECHNICHE Cremona International Exhibition in Cremona, Italy.
- 9° national dairy conference "MILK.IT", held at ZOOTECHNICHE Cremona International Exhibition in Cremona, Italy.
- Webinar "Strumentazione NIR a servizio della filiera zootecnica-casearia" organised by CREA-ZA
- Seminar "Il Carbon Farming: possibile opportunità per gli allevamenti di carne". Organised by CREA at Agricultural Exhibition in Verona, Italy.
- Webinar "Strumentazione NIR montata su macchine agricole" organised by CREA-ZA
- Webinar "Use of advanced sensors and data for animal welfare applications" organised by the International Dairy Federation (FIL-IDF).
- Webinar "La matrice lattiero casearia" organised by the International Dairy Federation (FIL-IDF)

#### Personal Data

I authorize the processing of my personal data pursuant to D.lgs. 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

