# Quantitative models for assessing the multidimensional food quality



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### Aim of the research activities

Multidimensional assessment of the processes involved in the food chain will allow to face problems related to the production, transformation and consumption of food in their complexity, throughout the:

- the identification of the single dimensions that make up the phenomenon,
- the relationships existing between them.

In the case of the food chain these dimensions are often strongly dependent on each other, to the point that it is often difficult to define the boundaries.

My research activity aims to develop quantitative tools allowing the joint assessment of two or more characteristics of a process or of the food quality, based on the collection, analysis and interpretation of data.



# Food safety Development of primary and secondary models for predictive microbiology in preserved meat

#### Prediction of the inactivation curves of *Salmonella* spp. in salami

**Primary model**: estimation of the linear inactivation of *Salmonella* spp. in culture broth





**Secondary model**: estimation of the linear inactivation of *Salmonella* spp. in salami, according to one or more environmental conditions



# Quantitative assessment

Quantitative evaluation based on Expert Knowledge Elicitation methodologies

Expert knowledge elicitation (EKE) refers to the drawing out of knowledge from experts. Experts can be asked for

# Environmental sustainability Assessment of the environmental impact of productive activities in the agrofood sector at

different spatial scales



specific information (facts, data, sources, requirements, etc.) or for judgements about things (preferences, utilities, probabilities, estimates, etc.). (EFSA, 2014, "Guidance on Expert Knowledge Elicitation in Food and Feed Safety Risk Assessment")



Nutritional properties Development of tools to measure eating habits (Food Frequency Questionnaire - FFQ) and implementation of a bromatological food database



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