

FOOD SAFETY AND FOOD RISK MANAGEMENT

CURRICULUM OF RISK MANAGEMENT

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Alma Mater Studiorum, University of Bologna



9 centuries of history from as far back as 1088

In the subject **Agriculture & Forestry**, UNIBO is classified 1st in Italy and 53rd in the world



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Alma Mater Studiorum, University of Bologna

UNIBO take care of students from their arrival to their departure and beyond

Housing for non resident students UNIBO

Student Accommodation and Information Service BOLOGNA
(for international students)

Inclusion services and equal opportunities UNIBO
(students with disabilities or learning disorders, dual careers (academic + athletic, ect)

Benefits for working students UNIBO

Libraries, digital resources and study rooms UNIBO Sport and culture UNIBO

International mobility UNIBO

Transferable skills UNIBO

Towards the job market UNIBO
(internship opportunities, job placement, 150 hours)

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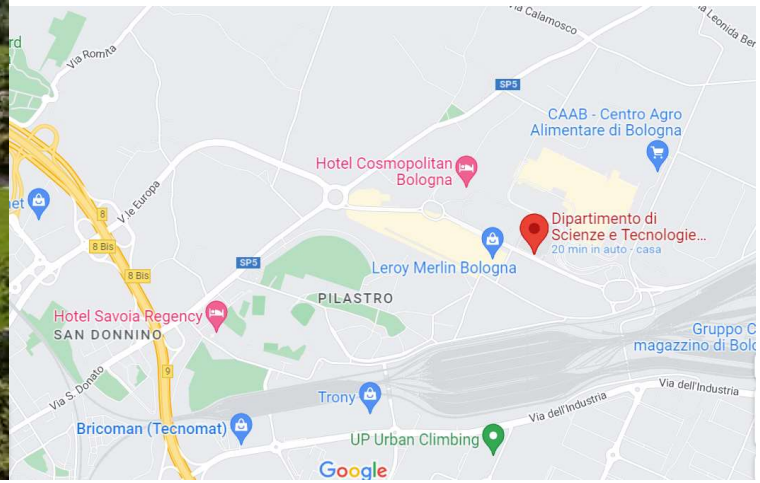
Department of Agricultural and Food Sciences





Easy to reach (20 min. by bus from the railway station and the city centre, 3 min. by car from tangenziale exit n. 9)

Free parking

Free wifi connection

Bar

B-free and relax area

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Curriculum of Risk Management

corsi.unibo.it/2cycle/food-safety-risk-management/index.html

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ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA

Second Cycle Degree/Two Year Master in

Food safety and food risk management

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Designing food safety

Advanced tools and technologies to *monitor* and *manage* food risks, ensuring *quality* and safety throughout the supply chain.

Overview



Place of teaching Parma, Bologna, Reggio Emilia , Piacenza, Modena	Language English	Degree Programme Class LM-70 - Food science	Degree Programme Director Gianni Galaverna
Type of access Open access	International programmes Delivered entirely in English, Joint degree	Department Agricultural and Food Sciences - DISTAL	Proposed paths (Curricula) Risk management

What you need today

- Course timetable
- Course structure diagram
- Exam Dates
- Faculty List
- Towards the job market
- Study method

[Curriculum Risk Management UNIBO]

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Curriculum of Risk Management
PEOPLE



Prof. Pietro Rocculi



Prof. Frédérique Pasquali



Prof. Fabio Vivarelli



Prof. Giulia Tabanelli



Prof. Annalisa Stacchini



Prof. Marco De Nardi



Prof. Monica Caffara



Prof. Silvia Turroni

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Curriculum of Risk Management
LEARNING OUTCOMES (1)

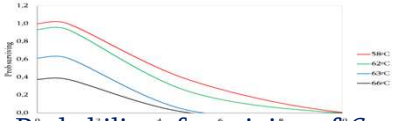
The program will **enable students to manage food risks through different approaches:**

✓ **Predict the risk**

CASE STUDIES

Practical applications of predictive microbiology for early warning to apply by regulatory agency and food industry

Growth of *L. monocytogenes* in smoked salmon

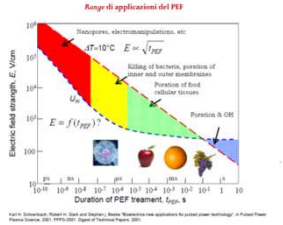


Probability of surviving of *S. enteritidis* vs treatment time (min)

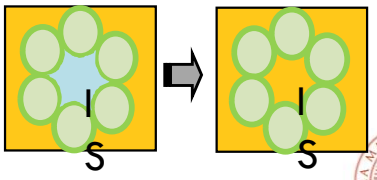
✓ **Manage the growth and survival of biological hazards applying innovative technologies in food industry**

THEORETICAL AND PRACTICAL KNOWLEDGE

Emerging food processing and packaging technologies able to positively impact on food risk management



Pulsed Electric Fields (PEF)



Vacuum Impregnation with Competitor bacteria

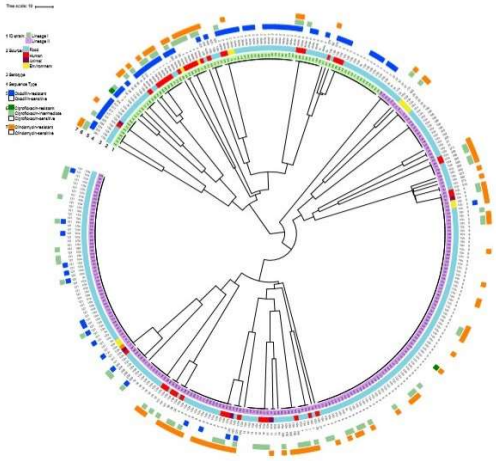
Curriculum of Risk Management
LEARNING OUTCOMES (2)

The program will **enable students to manage food risks through different approaches:**

✓ **Trace the hazard** (both at farm and food processing plant)

Case studies and visit on farm

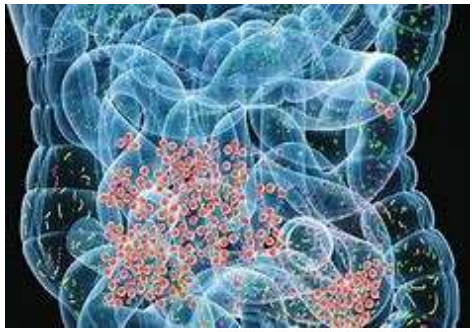
Manage the microbial food risk by tracing the hazard from farm to fork
Manage the risk factors by biosecurity measures applied in farms



✓ **Manage the risk by selection of healthy microbiomes**

Case studies

Risk management of food by selection of healthy microbiomes using metagenomic analysis
Risk management and safety standards for food ingredients and contaminants: case studies of xenobiotics in food



Curriculum of Risk Management
MANDATORY CORUSES (24 ECTS)

Advanced and predictive food microbiology — 6 ECTS

Advanced food processing and packaging — 6 ECTS

Farm biosecurity and foodborne risk — 6 ECTS
Foodborne Risk Traceability (Mod. I)
Farm Biosecurity and Zoonotic Diseases Prevention (Mod.II)

Risk assessment of food products to Human Health — 6 ECTS
Evaluation of adverse health effects from human exposure to foodborne hazards (Mod. I)
Innovative approach for risk assessment in microbiome food value chain (Mod. II)

Students' free choices — 9 ECTS

Practical training — 17+3 ECTS

Final dissertation — 4 ECTS

Curriculum of Risk Management
STUDENT FREE CHOICES

Food Economics and policy	3 ECTS
Microbial Genomics for Risk Analysis in the Food Chain	3 ECTS
Sustainable processing for the valorization of food agricultural waste and by-products	3 ECTS
Microbial biotechnology in food processing	3 ECTS
Risk Management of Zoonotic Parasites along the Food Chain	3 ECTS
DAMR Project	1 ECTS
Italian Language for foreigners	3 ECTS

Curriculum of Risk Management
LABORATORY ACTIVITIES

Laboratory activities in “real” laboratories where researchers are performing their activities every day and where you will be able to use expensive and high throughput instruments



Curriculum of Risk Management
SEMINARIES, TECHNICAL VISITS, EXAMS

Additional seminaries

- Foodborne Outbreak Investigation Game
- Application of WGS in the investigation of Food borne outbreaks – the EFSA One Health WGS System

Additional technical visit

- Visit to farms
- Visit to EFSA

Exams

Oral and written examination



Curriculum of Risk Management
INTERSHIP OPPORTUNITIES (1)

- ✓ Amadori Group
- ✓ Martini Group

} Meat of animal origin

- ✓ Orogel → Food of plant origin
- ✓ EmmeFood → Ready to eat food products
- ✓ Granarolo Group
- ✓ Centrale del latte

} Milk and dairy products

- ✓ University laboratories (food safety and food technology) at UNIBO
- ✓ Italian public veterinary institutes (IZSLER - Bologna)
- ✓ Erasmus programme

ISTITUTO ZOOPROFILATTICO SPERIMENTALE DELLA LOMBARDIA E DELL'EMILIA ROMAGNA "BRUNO UBERTINI"

Martini Autore di Sapori

OROGEL

EMMEFOOD

Amadori Passione di Famiglia

GRANAROLO

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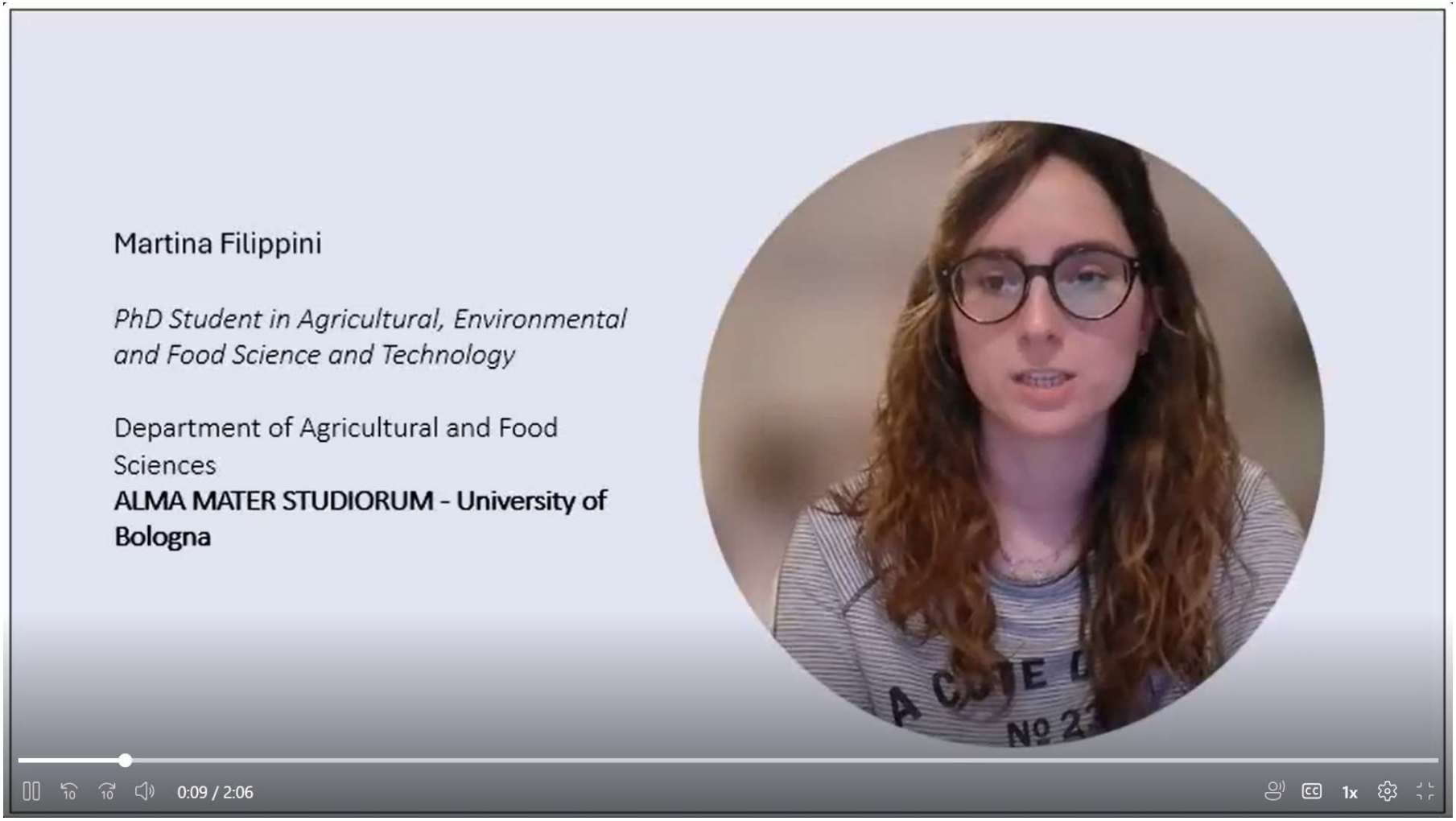
Curriculum of Risk Management
INTERSHIP OPPORTUNITIES (2)

Active collaboration with European Research Institutions

Institute	Topic
Danmarks Tekniske Universitet	Genomics and metagenomics applied to food and the environment
Universidad de Cordoba	Predictive Microbiology
National Veterinary Institute	Growth and survival of *Listeria monocytogenes*
Institut Pasteur	Genomics and bioinformatic pipelines
TEAGASC	Beef cattles and related food safety issues
Frie Universitet Berlin	Antimicrobial resistance

Curriculum of Risk Management
STUDENT'S EXPERIENCE



video fsfrm_Martina Filippini.mp4

Curriculum of Risk Management
STUDENT'S EXPERIENCE



UNIBO Experience - Amol.mp4



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