ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

UNIVERSITÀ
DI PARMA

UNIMORE
UNIVERSITÀ DEGLI STUDI DI
MODENA E REGGIO EMILIA

UNIVERSITÀ
CATTOLICA
del Sacro Cuore

UNIVERSITÀ
DEGLI STUDI
DI FERRARA
- EX LABORE FRUCTUS -

International Interuniversity
Master's Degree in
Food Safety and Food Risk Management

Curriculum: Risk Management (Bologna-Ferrara)

FOOD SAFETY AND FOOD RISK MANAGEMENT
1° YEAR (common in Parma)

2nd year

Risk Mitigation

(Piacenza-Parma)

UNIVERSITÀ
CATTOLICA
del Sacro Cuore

Risk Management

(Bologna-Ferrara)

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Agri-Food Safety

(Modena-Reggio)

UNIMORE
UNIVERSITÀ DEGLI STUDI DI
MODENA E REGGIO EMILIA

The 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 40th in the world

The 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

The Curriculum

Mandatory courses (24 ECTS)

Advanced and predictive food microbiology	6 ECTS
Advanced food processing and packaging	6 ECTS
Farm biosecurity and foodborne risk (integrated course)	6 ECTS
Risk assessment of food products to human health (integrated course)	6 ECTS

Students' free choices	Practical training	Final dissertation
6 ECTS	17 ECTS	4 ECTS

The Curriculum

Student' free choices (24 ECTS)

One Health in food safety (integrated course)

Risk analysis in the food chain and animal welfare (integrated course)

Food Economics and policy

Geochemical and isotopic fingerprint as tools for food traceability and food safety

https://cdlm-fsafrm.unipr.it/studying/subjects

https://en.unipr.it/ugov/degree/5547

The Curriculum

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

Additional seminaries

- **New Food Safety Metrics (ALOP, FSO, PO, PC)**
- **Decision support tools to manage the food risk at the industry level**
- **Emerging non-thermal and packaging technologies applied in food industries**

Additional technical visit

Visit at food industries and discussion on risk management

Exams

Oral and written examination

The Curriculum

Practical Training (17 ECTS)

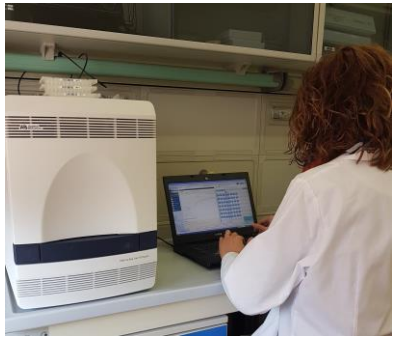
- ✓ Amadori Group
- ✓ Martini Group

} Meat of animal origin

- ✓ Orogel, Macè → 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



The Curriculum

Practical Training (17 ECTS) – Erasmus Programme

Active collaborations with European Research Insitutions

Institution	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
Lund University	Emerging processing technologies for food treatments
Institute for Plasma Science and Technology	Study of plasma treatments on food products
Frie Universitet Berlin	Antimicrobial resistance

The People

Prof. Gerardo Manfreda

Prof. Pietro Rocculi

Prof. Marco Candela

Prof. Giulia Tabanelli

Prof. Caterina Lupini

Prof. Elena Marrocchino

Prof. Meri Raggi

The People

Prof. Andrea Barbarossa

Prof. Mario Mazzocchi

Prof. Monica Caffara

Prof. Fabio Vivarelli

Prof. Barbara Padalino

Prof. Frédérique Pasquali

Learning outcomes

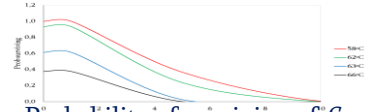
The program will **enable students to manage food risks through different approaches:**

✓ **Predict the risk**

CASE STUDIES

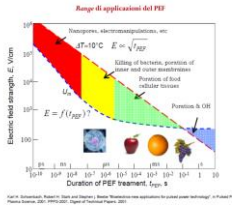
Practical applications of predictive microbiology for early warning to apply by regulatory agency and food industry

Growth of *L. monocytogenes* in smoked salmon



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

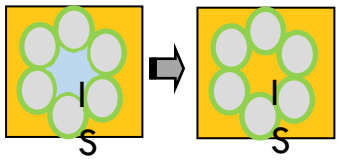
✓ **Manage the growth and survival of biological hazards applying innovative technologies in food industry**



Pulsed Electric Fields (PEF)

Theoretical and practical knowledge

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



Vacuum Impregnation with Competitor bacteria

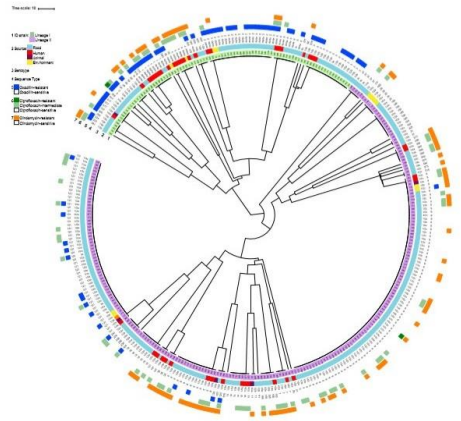
Learning outcomes

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

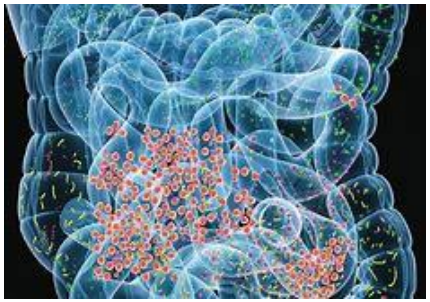


Genomic tracing of Listeria monocytogenes

✓ **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



5 REASONS TO ENROLL

1) Acquire **skills in risk assessment** and **risk reduction strategies**
2) Acquire knowledges strongly wanted by **EFSA** and **food companies**
3) **Interact with passionate teachers** willing to share with you their recent discoveries in past and on-going European research projects
4) **Exploit existing research networks** of people to perform your **practical training abroad**
5) **Access to high throughput and new generation instruments** in laboratories in which researchers perform experiments every day

Curriculum Risk Management

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