



**UNIVERSITÀ DI PARMA**

**INTERNATIONAL INTERUNIVERSITY  
MASTER'S DEGREE  
FOOD SAFETY AND FOOD RISK  
MANAGEMENT**

Parma, April 16th, 2024

Prof. Maria Paciulli  
Advisor for Incoming Students



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

International Interuniversity

Master's Degree in

# Food Safety and Food Risk Management



UNIVERSITÀ  
DEGLI STUDI  
DI FERRARA  
- EX LABORE FRUCTUS -



UNIVERSITÀ  
CATTOLICA  
del Sacro Cuore



UNIMORE  
UNIVERSITÀ DEGLI STUDI DI  
MODENA E REGGIO EMILIA

Master's Degree Course **in English**, with the

collaboration of the agro-food system of Emilia

Romagna Region and with the international network

of **Emilia Romagna Universities**



# Why Food Safety in the Emilia-Romagna Region?



Cultural Heritage

EFSA

Food Valley



Emilia-Romagna Region

Universities and Research Centres

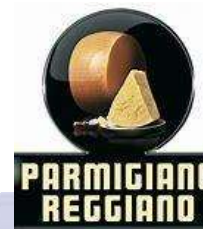
PDO Products

Food Industries

CIBUS2018  
11° SALONE INTERNAZIONALE DELLE ALIMENTAZIONI  
PARMA 7-10 MAGGIO/MAY



EXPERIENCE THE AUTHENTIC ITALIAN FOOD BUSINESS



PARMIGIANO REGGIANO



## The context



Do we still need to speak about Food Safety in 2024?

### «SAFER FOOD SAVES LIVES»

- ✓ **Increasing attention** by consumers, retailers, producers and control bodies
- ✓ **increasing food diseases** in all countries. > **600 million people fall ill** and **420 000 die every year** (food contaminated with **bacteria, viruses, parasites, toxins and chemicals**), especially fragile people.
- ✓ costs for national health systems (**6.9 billion\$/y from foodborne diseases**, USDA's Economic Research Service, 2004)
- ✓ loss of consumer's trust, trade and slices of market



# Food Scares



Mad cow disease (BSE, 2001)



Gutter oil (2010)



Melamine in milk (2008)



Dioxin in chicken (1999)



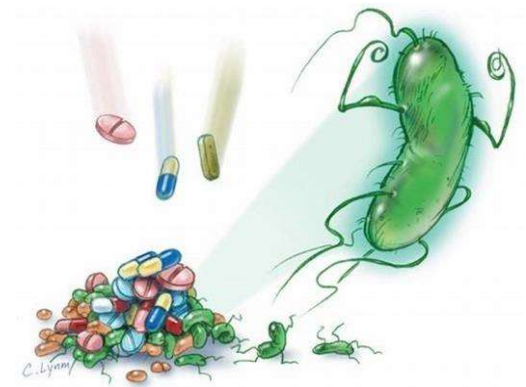
Mozzarella and land of fires (2013)



Contaminated bean sprouts (2011)

## Issues

- ✓ **By 2050, two out of three people will live in megacities:** challenges with food distribution, sanitation and hygiene, food waste and water scarcity.
- ✓ **Climate change** is associated with **altered geographic occurrence and prevalence of food safety hazards** (i.e., pathogens, mycotoxins, marine biotoxins and heavy metals).
- ✓ **Improving hygiene practices to reduce the emergence and spread of antimicrobial resistance**
- ✓ **Food Fraud:** Increasing phenomenon which cause the presence on the market of food adulterated with dangerous substances.



# The Master's Degree in Food Safety and Food Risk Management

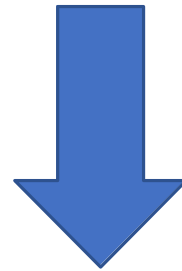
- ✓ **Highly integrated approach to the field of food safety.**
- ✓ **Focus on the technical aspects, as well as on the legal aspects of food safety and integration in Food Safety Management.**
- ✓ **Deeper understanding of microbiology, toxicology, risk analysis and food safety management**
- ✓ **Focus also on food legislation, supply chain protection and economic impact of food safety.**



# Contents: 1 study course with 3 curricula

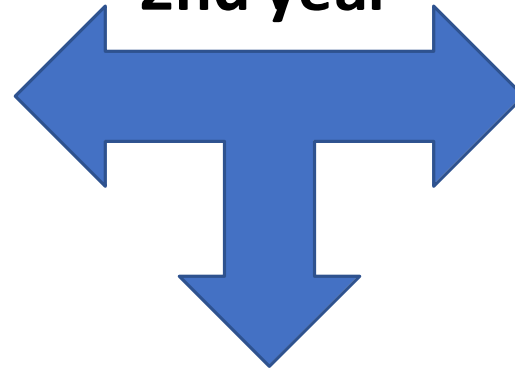
## Food Safety and Food Risk Management

1st year (common, Parma)



2nd year

Risk Mitigation  
(Piacenza-Parma)



Risk Management  
(Bologna-Ferrara)

Agri-Food Safety

(Modena-Reggio)

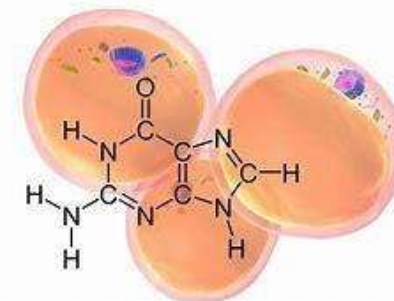


# Food Safety and Food Risk Management: 1st year common (UNIPR)

## Risk characterization and exposure assessment in food

Food toxicology (Mod. I)

Exposure assessment and risk/benefit evaluation (Mod. II)



## Food Technology and Microbiology

Food Technology (Mod. I)

Food Microbiology (Mod. II)



## Hazard Identification in Primary Production

Plant Health (Mod. I)

Animal Welfare (Mod. II)

## Biological Hazards in Food

## Xenobiotics in Food

## Biostatistics

## Food Law and International Policies

## Ethics and anthropology of food

# Curriculum Risk mitigation (2nd year, UNIPC and UNIPR)

Mitigation of risk in food production

Mitigation of process-related toxicants

Emerging risk

Food allergens

Students' free choices

Practical training

Final dissertation



# Curriculum Agri-Food Safety (2nd year, UNIMORE)



**Post-harvest diseases and their management**

**Animal pests in stored agri-food products and their management**



**Micotoxigenic fungi in agri-food and pesticide contamination: analysis and risk management**

**Biotechnology and agronomy for safety and identity preservation of agrifood products**

Biotechnology and safety aspects of vegetable-based foods (Mod. I)

Good agricultural practices and identity preservation (Mod. II)

**Students' free choices**

**Practical training**

**Final dissertation**

# Curriculum Risk Management (2nd year, UNIBO and UNIFE)

**Advanced food processing and packaging**

**Advanced and predictive food microbiology**

**Farm biosecurity and foodborne risk**

Foodborne risk traceability (Mod. I)

Farm biosecurity and zoonotic risk prevention (Mod. II)

**Risk assessment of food products to human health**

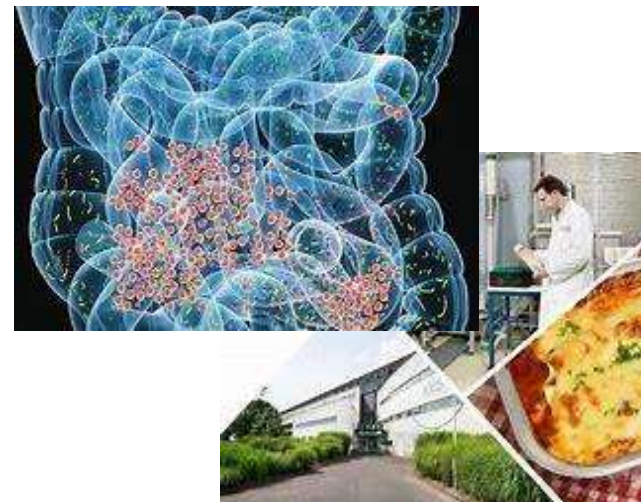
Evaluation of adverse health effects from human exposure to foodborne hazards (Mod. I)

Innovative approach for risk assessment in microbiome food value chain (Mod. II)

**Students' free choices**

**Practical training**

**Final dissertation**



# Training and final dissertation on food safety topics

## Within and in collaboration with:

- ✓ **University**
- ✓ **Industry**
- ✓ **Governmental Institutions**
- ✓ **EFSA**



# Career opportunities

## ✓ Food Industry (60 – 70%)

Food safety manager

Quality and safety manager

Regulatory affairs

R&D

## ✓ Research

## ✓ Wholesale and retails

Regulatory affairs

## ✓ Government

Regulatory, legal

Food inspection services

EU

## ✓ Other

Consultancy

Communication



## Our supporters



**Nestlé**



**CONSIGLIO  
DELL'ORDINE NAZIONALE  
DEI TECNOLOGI ALIMENTARI**



*Unione Parmense degli Industriali*



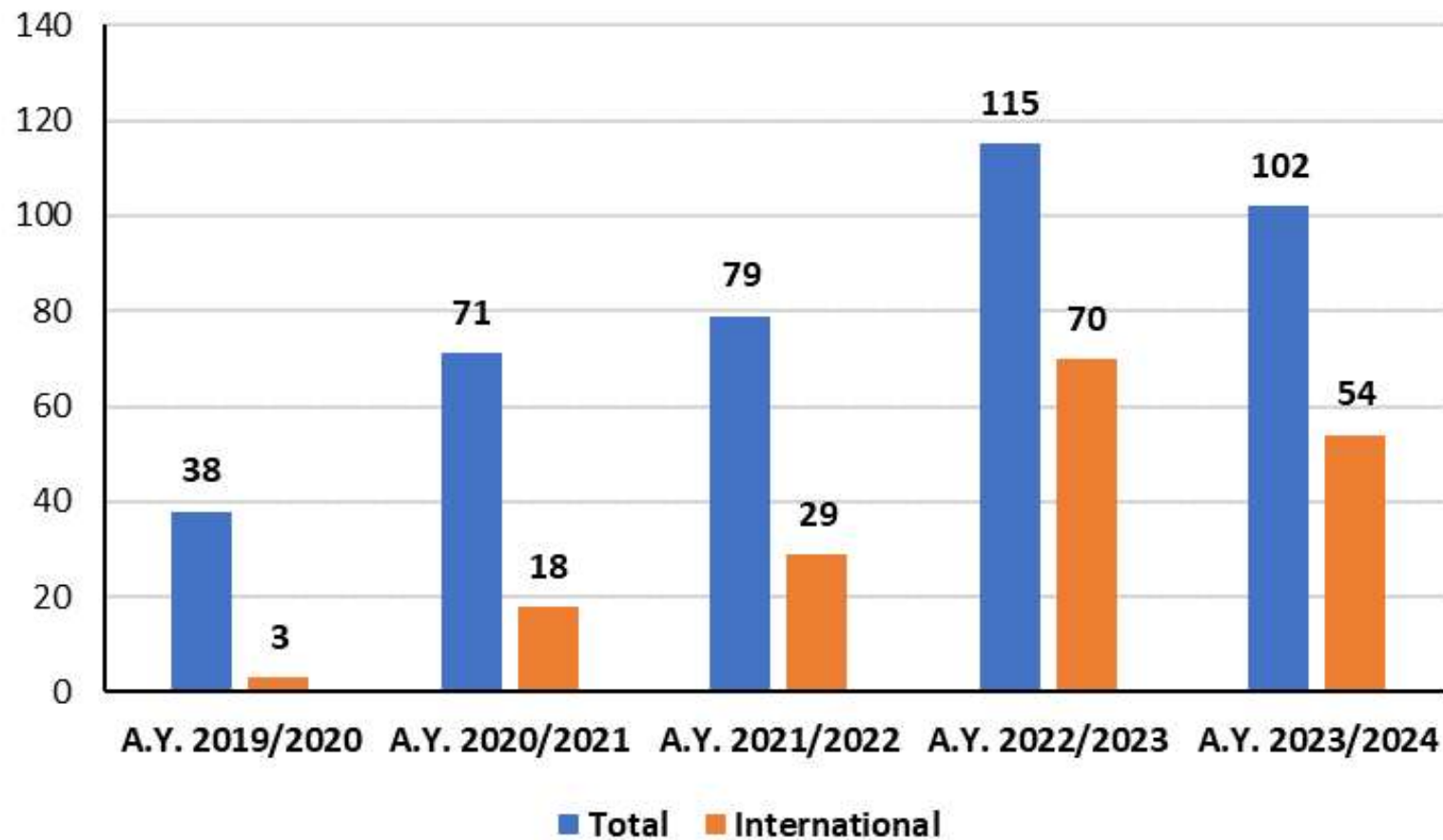
**SSICA**

STAZIONE SPERIMENTALE PER L'INDUSTRIA DELLE CONSERVE ALIMENTARI



# Some data...

## Number of students





Some data...

**Employability year 2022: 73.3%**

**Graduates employed within one year: 76.9%**



# The Master's Degree in Food Safety and Food Risk Management

✓ Designed for science graduates in the area of: **Food and Agricultural Sciences, Food Technology** as well as **Veterinary Science** and **early stage professionals**.

- FREE ACCESS COURSE

- COURSE IN ENGLISH

- ADMISSION REQUIREMENTS:

- ENGLISH LANGUAGE B2
- CURRICULAR REQUISITES



# The Master's Degree in Food Safety and Food Risk Management

- CURRICULAR REQUISITES: **adequate basic knowledge in food technology, food microbiology, food chemistry, primary production, human nutrition**
- Automatically satisfied by the possession of a three-year Italian university Bachelor Degree classes DM 270/04: L-25; L-26; L-38 or DM 509/99: 20, 40.
- Perspective students in possession of a different Bachelor Degree can be enrolled, if they have acquired at least 60 ECTS relevant for the MSc course.
- Final Bachelor Degree mark of not less than 88/110 or equivalent
- Admission Committee verification / Personal Interviews

# The Master's Degree in Food Safety and Food Risk Management

## ADMISSION PROCEDURES - EU NATIONALS

Two main steps:

- Pre-evaluation. Submit documentation related to your previous education and any language certifications

Deadline: **October 1st, 2024.**

- Enrolment. Once pre-enrolment on University is successfully confirmed, you must register on the University of Parma Student Registry and formalize online enrolment.



# The Master's Degree in Food Safety and Food Risk Management

## ADMISSION PROCEDURES – NON-EU NATIONALS

Three main steps:

- Pre-evaluation. Submit documentation related to your previous education and language certification using the on-line form.

Deadlines:

- From **February 27th** to **April 30th, 2024** (first call)
- From **May 16th** to **June 30th, 2024** (second call)

- Pre-enrolment on the University portal. Apply for an entry visa for Italy and receive final validation of your qualifications.

- Enrolment. Once pre-enrolment on University is successfully confirmed, register on the University of Parma Student Registry. Remember that **having a valid VISA is mandatory** to proceed with enrolment.



# The Master's Degree in Food Safety and Food Risk Management

Students who have successfully completed the pre-evaluation, but will not graduate and/or will not have the B2 level English certificate by **October 18th 2024**, can make the online **enrolment application** from **July 16th 2024** to **October 18th 2024**.

Bachelor Degree Graduation and B2 English level certification must be acquired by **March 31st, 2025**.



# Website

<https://saf.unipr.it/>

<https://corsi.unipr.it/en/cdlm-fsafrm>

The screenshot shows the website interface for the Second Cycle Degree Course in Food Safety and Food Risk Management at the University of Parma. The header includes the university logo, the course title, and navigation links for 'ALL COURSES', 'ENG', and a search icon. Below the header, there are navigation tabs: 'THE COURSE', 'ENROLLING', 'STUDYING', 'GRADUATING', and 'SERVICES'. The main content area features a text block on the left and six circular icons with corresponding text on the right. A large image of a person writing on a document is also present. The bottom right corner has a 'CLOSE SECTION' button and a 'Passa a Impostazioni per attivare Windows' notification.

**UNIVERSITÀ DI PARMA**

SECOND CYCLE DEGREE COURSE IN  
**Food safety and food risk management**

ALL COURSES ENG

THE COURSE ENROLLING STUDYING GRADUATING SERVICES

If you are looking for a Second Cycle Degree Course at the forefront of the modern food sciences, and you want to acquire the ability to face the challenges posed by the modern food systems and learn deep skills in managing the safety of what we eat, we propose to you to become a Food Safety expert. It's possible through a regional course, fully taught in English, offered by a network formed by Universities of Parma, Bologna, Cattolica of Piacenza, Modena and Reggio Emilia, Ferrara. Emilia-Romagna region and, in particular, the Parma District represent an integrated ecosystem of food industries,

- 2** years  
SECOND CYCLE DEGREE COURSE
- FREE ACCESS**
- COURSE IN ENGLISH**
- CLASS LM-70**
- 120 CREDITS**
- 5064**  
COURSE CODE

CLOSE SECTION

Attiva Windows  
Passa a Impostazioni per attivare Windows.

# Contacts

**President of the course:** Prof. Tullia Tedeschi  
@ [tullia.tedeschi@unipr.it](mailto:tullia.tedeschi@unipr.it)

**Advisor for incoming students:** Prof. Maria Paciulli  
@ [maria.paciulli@unipr.it](mailto:maria.paciulli@unipr.it)

**Advisor for Erasmus and international programs:** Dr. Francesco Martelli  
@ [francesco.martelli@unipr.it](mailto:francesco.martelli@unipr.it)

**Quality Assurance delegate:** Prof. Chiara Dall'Asta  
@ [chiara.dallasta@unipr.it](mailto:chiara.dallasta@unipr.it)

**Student's tutor:** Maria Giulia Bonomini  
@ [mariagiulia.bonomini@unipr.it](mailto:mariagiulia.bonomini@unipr.it)



# Testimonials from former students

- **Valeria Santivetti**
- **Maria Giulia Bonomini**



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- **Maria Giulia Bonomini**



# VALERIA SANTIVETTI





## ABOUT ME:

FROM ROME

BACHELOR DEGREE  
IN FOOD SCIENCE

THESIS: "**FOOD FRAUDS** AND AGRO-  
PIRACY: LEGAL FRAMEWORK, STATE OF  
THE ART, AND REFORM PROSPECTS"



# MASTER DEGREE:



UNIVERSITÀ  
DI PARMA



FOOD SAFETY AND  
FOOD RISK MANAGEMENT

CURRICULUM  
RISK MITIGATION:

*Mitigation of risk in food production*

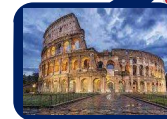
*Emerging risks*

*Mitigation of process-related toxicants*

*Food Allergens*

***Agri-food Authenticity and Fraud***

***Geochemical and Isotopic Fingerprint as Tools for Food Traceability and Food Safety***



# INTERNSHIP



QUEEN'S  
UNIVERSITY  
BELFAST

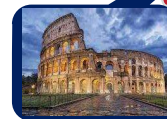
SCHOOL OF  
BIOLOGICAL  
SCIENCES



UNIVERSITÀ  
DI PARMA



THESIS:  
SPECTROSCOPIC TECHNIQUES FOR  
THE DETECTION OF **FOOD FRAUDS**:  
USE OF NEAR INFRARED  
SPECTROSCOPY AND  
CHEMOMETRICS IN RICE AND  
OREGANO CASE STUDY



# WHAT NOW?



## RESEARCH INTERN -ANALYTICAL ADVANCED LAB

*Research on rapid methods for mycotoxin detection and endocrine disruptors*

## FOOD SAFETY SPECIALIST - GLOBAL Q&FS GOVERNANCE

*(Food Safety Risk Assessment, Food Fraud Risk Assessment, Food Defence, HACCP)*







# Testimonials from former students

- Valeria Santivetti
- **Maria Giulia Bonomini**



# Maria Giulia Bonomini, PhD candidate

**Bachelor**

**Agricultural and forestry sciences**

2016 - 2019

Final dissertation in  
**Food Technology**

*“Evaluation of the oxidative stability of a cold-pressed hemp seed oil”*



**Master**

**Food safety and food risk management**

2019 - 2021

Final dissertation in  
**Food Allergens**

*“Characterization and allergenicity assessment of protein hydrolysates obtained from legume by-products”*



**Research fellowship**

**University of Parma Friesland Campina**

2021 - 2022

Nutritional and safety assessment of protein formulations for infancy



**PhD**

**Food science – Chemistry division**

2022 - present

Insects as a sustainable alternative to traditional high-protein feeds



## Maria Giulia Bonomini, PhD candidate

Master

→ Why this course?

Food safety and  
food risk management  
2019 - 2021



# Maria Giulia Bonomini, PhD candidate

Master

→ Why this course?

Food safety and  
food risk management  
2019 - 2021

↓  
Risk  
mitigation



**Maria Giulia Bonomini, PhD candidate**

**Risk mitigation**

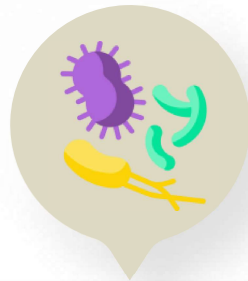
**Master**

**PhD  
Food Science**



**Insects as sustainable protein source in animal feed**

**Food safety and food risk management**  
2019 - 2021



**Antibacterial and prebiotic activity**

Determination of the antibacterial and prebiotic activity of insects and of fractions derived therefrom



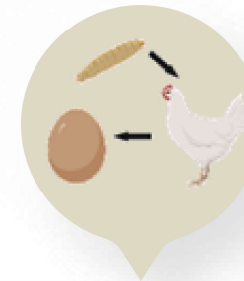
***In vitro* protein digestibility**

Characterization and protein digestibility of insects and their fractions: shotgun proteomics (HR-MS), analysis of peptides (UHPLC/IM-QTOF-MS)



**Method development**

Development of a method for the simultaneous determination of protein digestibility and antibacterial activity *in vitro*



**Protein quality of final products**

Characterization of eggs derived from chicken fed with insects: focus on protein quality and amino acid pattern (UPLC-ESI/MS, SDS-PAGE)

## Maria Giulia Bonomini, PhD candidate

### Some suggestions from a former student...

**1**

**Don't be scared of English**  
Studying in another language might seem intimidating for non-native speakers: don't worry, you will get used to it in a heartbeat!

**2**

**Professors are there to help**  
All professors want the best for you. Need to find an internship that suits you? Would love to spend time abroad but don't know how? Professors will provide guidance and insights.

**3**

**Stay curious!**  
If you want to take a students' choice course from another curriculum, participate in seminars, summer schools... There will always be room for learning more.

[mariagiulia.bonomini@unipr.it](mailto:mariagiulia.bonomini@unipr.it)

# Questions?



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# SAFE FOOD NOW FOR A HEALTHY TOMORROW

Food safety is everyone's business



# THANK YOU!



UNIVERSITÀ DI PARMA

[www.unipr.it](http://www.unipr.it)