

Hiba Selmi

PhD in Biological Sciences

Personal Profile:

Bachelor's degree of Sciences and Technology in Life Sciences, Master's degree of Sciences and Technology in Cellular and Molecular Biology - Specialty : Biochemistry and a PhD in Biological Sciences.

Education

2020- 2024	PhD in Biological Sciences Faculty of Sciences of Bizerte, University of Carthage, Tunisia “Exploring the Potential Probiotic and Biocontrol Properties of Novel Lactic Bacteria Strains, Isolated from Tunisian Unconventional Niches, for Industrial Purposes”
2017-2019	Master’s Degree of Sciences and Technology in Cellular and Molecular Biology Domain: Biochemistry Faculty of Mathematical, Physical and Natural Sciences of Tunis, University of Tunis, Tunisia “Sélection de Bactéries Lactiques à Potentiel Antibactérien et Pouvoir Protéolytique à partir des Sources Non-Laitières”
2014-2017	Bachelor’s Degree of Sciences and Technology in Life Sciences Domain: Molecular, Cell Biology and Biotechnology Faculty of Science of Bizerte, University of Carthage, Tunisia

Trainings

<ul style="list-style-type: none">September 2023 (4 months) Visiting PhD student Faculty of Food Science and Nutrition, Poznan University, Poznan, Poland Research grant from the Tunisian Ministry of Higher Education and Scientific Research, University of Carthage <ul style="list-style-type: none">❖ Plant-based beverage prepared with probiotics.❖ Micro-encapsulation techniques.❖ Response of lactic bacteria to stress related to industrial applications.
<ul style="list-style-type: none">February 2023 (6 months) Visiting PhD student Department of Agricultural Food and Environmental Sciences, University of Foggia, Foggia, Italy Research grant from the Embassy of Italy in Tunisia, Italian Cultural Institute of Tunis <ul style="list-style-type: none">❖ Cells culture (human caco2 cell line).❖ Probiotics adhesion to human cells.❖ <i>In vitro</i> assays of biocontrol ability of probiotics lactic bacteria on food matrices.

- August 2022 (5 months)

Visiting PhD student

CIISA-Center for Interdisciplinary Research in Animal Health, Faculty of Veterinary Medicine, University of Lisbon, Lisbon, Portugal

Research grant from the Tunisian Ministry of Higher Education and Scientific Research, University of Carthage

- ❖ Antibiotic Resistance (AST) of lactic bacteria strains.
- ❖ Technological features such as gelatinase activity, proteolysis, and lipolysis.
- ❖ Pathogenicity potential of lactic bacteria.
- ❖ Biofilm production ability.
- ❖ Anti-biofilm assay to inhibit the pathogens biofilms.
- ❖ Tolerance to oro-gastro-intestinal (OGI) transit *in vitro*.

- June 2022 (3 months)

Visiting PhD student

Pasteur Institute of Tunis, Tunis, Tunisia

- ❖ Cell culture including cancer cells (HUVEC and LS174T), conservation, and cell congelation.
- ❖ Anticancer and Anti-proliferative activity of lactic bacteria supernatant using MTT technique.
- ❖ Cytotoxicity of Supernatant-free cell of lactic bacteria.

- September 2021 (3 months)

Visiting PhD student

Department of Agricultural Food and Environmental Sciences, University of Foggia, Foggia, Italy

Research grant from the Tunisian Ministry of Higher Education and Scientific Research, University of Carthage

- ❖ Antimicrobial activity including antifungal activity against plant pathogens e.g. *Penicillium expansum*, *Aspergillus niger*, *Fusarium culmorum* and *Botrytis cinerea* and antibacterial activity.
- ❖ Molecular biology tools e.g. DNA extraction, PCR, electrophoresis, sequencing.
- ❖ Probiotics assays e.g. tolerance to acidic pH, Bile salts.

Professional Experiences

- April 2022

Practical Teacher as a PhD student

National Institute of Applied Science and Technology, University of Carthage, Ariana

- ❖ Molecular Biology techniques.
- ❖ DNA and RNA extraction using the classic protocols (phenol-chlorophorm methods) and DNA extraction kit.
- ❖ Electrophoresis gel, nucleic acids separation.

Scientific publications

Scientific publication entitled “Cultural Diversity in Fermented Dairy: Insights from Morocco, Tunisia, and Algeria”, Book Chapter (in preparation).

Scientific publication entitled “*Lactiplantibacillus plantarum* from Unexplored Tunisian Ecological Niches: Antimicrobial Potential, Probiotic and Food Applications” (DOI: 10.3390/microorganisms11112679).

Scientific publication entitled “Antimicrobial and Antibiofilm Potential of *Thymus vulgaris* and *Cymbopogon flexuosus* Essential Oils against Pure and Mixed Cultures of Foodborne Bacteria” (Doi: 10.3390/antibiotics12030565).

Conference, Workshop and Webinars Participations

- June 2024 (21-24th June 2024)

The 33rd ATSB International Congress : The Tunisian Association of Biological Sciences
Sousse- Tunisia

Scientific publication entitled “Exploring the Probiotic and Biocontrol Potential of *Lpb. plantarum* Strains Isolated From Unconventional Sources” (Oral)

Hiba Selmi, Maria Teresa Rocchetti , Vittorio Capozzi, Teresa Semedo-Lemsaddek, Daniela Fiocco, Ferid Abidi and Giuseppe Spano

- June 2024 (12-14th June 2024)

Attendance **International Workshop: Project Proposal Writing**
FST Tunis EL MANAR

- November 2023 (November 21, 2023)

Attendance **Global Webinar Meeting : Tackling Antimicrobial Resistance In Hospital Settings**
Online

- July 2022 (18-20th July 2022)

Attendance PHIND access Workshop «How to bring your research projects closer to Society?»
Pasteur Institute of Tunis

- November 2022 (11-12th November 2022)

CIISA Congress 2022 : Innovation in Animal, Veterinary and Biomedical Research
Faculty of Veterinary Medicine, University of Lisbon, Lisbon, Portugal

Scientific publication entitled “Screening for new Tunisian lactic acid bacteria with antimicrobial properties, to be used in biopreservation” (Poster)

Hiba Selmi, Nicola de Simone, Pasquale Russo, Giuseppe Spano, Teresa Semedo-Lemsaddek and Ferid Abidi

- March 2022 (21-23th March 2022)

The 31st ATSB International Congress : The Tunisian Association of Biological Sciences
Hammamet- Tunisia

Scientific publication entitled “Screening of New Tunisian Lactic Bacteria Strains for Antimicrobial Properties to be Used in Biopreservation” (Oral)

Hiba Selmi, Neyssene Aissaoui, Leila Ben Farhat, Ferid Abidi

- February 2021 (February 18, 2021)

Attendance **SPRINGER NATURE Webinar : Step-by-Step Guide on How to Prepare a Successful Paper-LALC**
Online

Relevant Skills

-Language Skills

Arabic : Mother tongues

	Understanding	Speaking	Writing
French	C2	C2	C2
English	C1	C1	C1

(levels: A1, A2 : Basic user; B1, B2 : Independent user; C1, C2 : Proficient user)

-Digital Skills

Microsoft Office

Microsoft Excel

Outlook

Microsoft PowerPoint

Reference management softwares (EndNote, Zotero)

Bioinformatics software such as MEGA

IBM statistical package for Sciences (SPSS)

Statistical analysis SPSS and GraphPad

-Biologist Skills

Defining problems

Analytical Thinking

Microbiology

Lactic bacteria

Fermentation

Probiotics

Antimicrobial and biopreservation

Biochemical analysis

Proteins and polysaccharides extraction and characterization

Protein activities

Molecular biology

Hiba Selmi

09.2024