

CURRICULUM VITAE

María Alejandra Quiñones Peña, Ph.D.

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EDUCATION

- 2021 *Postdoctoral Research Fellowship*
Area of specialization: **Virology & Immunology**
Hospital Infantil de México Federico Gómez
Bacterial Pathogenicity Laboratory, Hemato Oncology and Research Unit
Mexico City, Mexico
- 2018 *Ph.D. in Biochemistry*
Track: **Microbiology** & Static Magnetic Fields
Universidad Nacional Autónoma de México (UNAM)
School of Medicine
Hospital Infantil de México Federico Gómez
Bacterial Pathogenicity Laboratory, Hemato Oncology and Research Unit
Mexico City, Mexico
- 2011 *Master of Science in Chemistry*
Universidad Nacional Autónoma de México (UNAM)
Chemistry Faculty, Food and Biotechnology Laboratory
Mexico City, Mexico
- 2007 *Bachelor of Nutrition and food science*
Universidad Iberoamericana
Department of Health
Mexico City, Mexico

TEACHING EXPERIENCE

Responsible for developing course syllabus, for preparing course lectures, handouts, and exams, as well as delivering lectures. Other responsibilities included monitoring student progress and attendance, recording and submitting grades, and participate in departmental and College affairs.

Graduate Courses

Food safety (Fall 2014, Summer 2016, Summer 2017)
Universidad Insurgentes

Undergraduate Courses

Medical Microbiology (Class and Laboratory) (Fall 2022) The University of Texas Rios Grande Valley

Molecular Biology (Spring 2022) *Universidad Anahuac del Norte*

Bromatology (Spring 2022) *Universidad Anahuac del Norte*

Biochemistry (Fall 2021 – hybrid, Spring 2022) *Universidad Anahuac del Norte*

Research methodology (Fall 2021, Spring 2022) (online) *Universidad Anahuac del Norte*, (Summer 2020) *Universidad Insurgentes*

Psychological eating disorders II (Summer 2020) (online) *Universidad Insurgentes*

Nutrition and Metabolism (Spring 2020) (hybrid) *Universidad Insurgentes*

Food Technology (Spring 2020) (hybrid) *Universidad Insurgentes*

Qualitative research methodology (Summer 2019) *Universidad Insurgentes*

Demographic statistics (Fall 2018) *Universidad Insurgentes*

Intership I (Fall 2018) *Universidad Insurgentes*

Parasitology (Fall 2018) *Universidad Insurgentes*

Nutritional programs (Summer 2018, Spring 2019) *Universidad Insurgentes*

Food hygiene (Summer 2018) *Universidad Insurgentes*

Mexican diseases (Spring 2018) *Universidad Insurgentes*

Organic Chemistry (Summer 2017) *Universidad Insurgentes* (Spring 2012) *Universidad Intercontinental*

Food preservation processes (Summer 2017, Fall 2019, Spring 2020 (hybrid)) *Universidad Insurgentes*

Pharmacology (Summer 2017) *Universidad Insurgentes*

Mexican nutritional culture (Spring 2017, Spring 2019) *Universidad Insurgentes*

Teenager nutrition (Spring 2017) *Universidad Insurgentes*

Microbiology (Spring 2017, Fall 2017, Fall 2019, Spring 2020 (hybrid)) *Universidad Insurgentes*

School age nutrition (Fall 2016, Summer & Fall 2017, Spring 2019) *Universidad Insurgentes*

Foodborne illness (Fall 2016, Summer 2018, Spring 2020 (hybrid)) *Universidad Insurgentes*

Health education (Summer 2016, Spring 2017) *Universidad Insurgentes*

Pregnancy nutrition (Summer 2016) *Universidad Insurgentes*

Nutritional Research Seminar (Summer 2016) *Universidad Insurgentes*

Food chemistry (Fall 2014, Summer 2018, Summer 2019, Spring 2020 (hybrid)) *Universidad Insurgentes*

Toddler and pre-toddler nutrition (Spring 2014) *Universidad Insurgentes*

Nutrition in old age (Spring 2014, Summer 2014, Spring 2018) *Universidad Insurgentes*

Food structure and chemical components (Summer 2014, Fall 2017, Summer 2018, Spring 2019) *Universidad Insurgentes*

Nutrition biochemistry and physiology (Fall 2011, Spring 2012) *Universidad Intercontinental*
Human Nutrition (Spring & Fall 2010) *Universidad Nacional Autónoma de México*

Teaching Assistant

Food Toxicology (Spring and Fall 2006) *Universidad Iberoamericana*
Position included curricular development and full course lecturing

EMPLOYMENT EXPERIENCE:

Research and Grants

2020 – 2021 Postdoctoral Research
Mexico Children’s Hospital “Federico Gómez”
(Dr. Eslava Campos and Dr. Ulises Hernández)
Establishment of the agreement with another research area.
Project: “Detection of SARS-CoV-2 immunodominant sites by Phage display and its potential use for diagnosis and development of immunogens”
Research experience: Phage Display, rabbit immunization, ELISA test.
Supervisory Experience: Supervised one PhD student
Role: Principal Investigator
Total Funds: \$10,000 (UNAM, PAPIIT internal grant)

2017 – 2018 Research Assistant
Mexico Children’s Hospital “Federico Gómez”

(Dr. Oscar Medina)

Establishment of the agreement with another research area.

100% completed the projects under my charge.

Projects: “**Characterization of relevant bacterial proteins to health**” & “**Regulation the gut mucosal immune response by IL-36**”

Research Experience: IEF protein samples processing, MALDI-TOF/TOF peptide, mass fingerprint, MASCOT protein identification, Ab glycosylation patterns analysis, bacteria cultures, bacterial transformation, recombinant protein expression, restriction enzyme- and gateway- cloning, models of intestinal inflammation (DSS or *Salmonella*), flow-cytometry

Supervisory Experience: Supervised one master student and two undergraduate students

Clinical Services Experience: Bacterial diagnosis by MALDI Biotyper

Role: Co-Investigator

Total Finds: \$75,000

2011 – 2018 Graduate student

Autonomous National University of Mexico, School of Medicine

(Dr. Carlos A. Eslava)

Creation of a new research line. Effect of static magnetic field in the **bacterial pathogenesis**.

Establishment of interdisciplinary research team.

Published research findings in *Bioelectromagnetics* IF 1.945.

Ph.D. degree project: “Effects of Static Magnetic Fields on the Enteropathogenic *Escherichia coli*.”

Research Experience: IEF protein samples processing, end-point PCR, IHC and IF staining, western blot, bacteria cultures, bacterial transformation, recombinant protein expression, restriction enzyme- and gateway- cloning, cell culture, in vitro bacterial infection

Supervisory Experience: Supervised two undergraduate students and one full time technician

Role: Undergraduate Research and Principal Investigator (thesis project)

Total Finds: \$5,000 (UNAM, PAPIIT internal grant)

2008 – 2011 Graduate student

Autonomous National University of Mexico, Chemistry Faculty

(Dr. Amelia Farrés)

M. Sc. degree thesis: “Production of a black bean protein concentrate, its physicochemical characterization and gene expression effect on insulin and SREBP1”

Research Experience: RNA isolation from tissue, end-point and real time PCR, IHC and IF staining, western blot, plant protein fractions characterization, large-scale plant protein purification

Supervisory Experience: Supervised two master students and one undergraduate student

Role: Undergraduate Research and Principal Investigator (thesis project)

Total Finds: \$50,000 (ICIT-CONACYT)

2006-2007 Undergraduate student
Research & Development, Pepsico, Mexico
(M. Sc. Fernando Ramírez)
Creation of new snack. The product is still for sale.
B. Sc. degree thesis: "Obtaining a commercial snack through vacuum frying (pineapple)"
Research Experience: Evaluation of frying methods, large-scale plant production
Role: Undergraduate Research and Principal Investigator (thesis project)

PUBLICATIONS

Quiñones-Peña MA, Hernández-Chiñas U, Eslava CA, Rocha-Ramirez LM. Phage Display as a useful technique for vaccine development. In preparation 2022.

Quiñones-Peña MA, Tavizon G, Puente JL, Martínez-Anaya C, Hernández-Chiñas U, Eslava CA. 2017. Effects of Static Magnetic Fields on the Enteropathogenic *Escherichia coli*. Bioelectromagnetics. 38(7):570-578.

Calderón-Oliver M, **Quiñones-Peña MA**, Pedraza-Chaverri J. 2011. Efectos Benéficos del *Aloe* en la Salud. VERTIENTES, Revista Especializada en Ciencias de la Salud. 14(2):53-73.

CONFERENCE PRESENTATION

Quiñones-Peña MA, Tavizon G, Martínez-Anaya C, Hernández-Chiñas U and Eslava CA. Effects of Static Magnetic Fields on Enteropathogenic *Escherichia coli*
Segundo Congreso Iberoamericano de Magnetobiología
Online
December 14 – 16, 2020
Work presented as oral presentation

Torres N, Tovar A, **Quiñones-Peña MA**, Galvez A. Black bean (*Phaseolus vulgaris*) Protein Isolation and the Study of Its Effect on Lowering Lipid Production.
Semana de la Ciencia y la Innovación 2009
Mexico City, Mexico
September 21, 2009
Work presented as oral presentation

FELLOWSHIPS AND HONORS

12-month national Postdoctoral fellowship.
The National Council on Science and Technology (CONACYT).
Mexico City, Mexico
2020 – 2021

48-month national PhD degree scholarship.
The National Council on Science and Technology (CONACYT).
Mexico City, Mexico
2011 – 2016

24-month national MSc degree scholarship.
The National Council on Science and Technology (CONACYT).
Mexico City, Mexico
2008 – 2010

Honorific Mention
Universidad Iberoamericana (IBERO)
Department of Health
Mexico City, Mexico
2007

LANGUAGES

Spanish: Mother tongue

English: 90%