

Marlene Rios-Bocanegra

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EDUCATION

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| Biotechnology Advanced Diploma Algonquin College. | 2022 |
| B.Sc. Biology. (Specializing Laboratory Research). Universidad Veracruzana. Veracruz, México. | 1995 |

TECHNICAL SKILLS

- Lab Management.
- Quality Control.
- Quality Assurance.
- Protein Extraction and Analysis.
- RNA and DNA extraction and Analysis.
- PCR analysis.
- Analysis and design of primers.
- Bacterial and fungus culture.
- Field work sampling.
- Sample preparation of survey samples, microscopy, morphological and molecular biology techniques.
- Plant tissue culture.
- Development and maintenance of plants in green house and laboratory conditions.
- Evaluation of chemical products for the control of pathogens *in vitro* and greenhouse conditions.

ADDITIONAL QUALIFICATIONS

- Implementation of ISO program and internal auditor.
- Organization of scientific events and congress.
- Training of students and employees for different companies on several laboratory techniques.
- Presentations of research projects in courses and congress.
- Ordering laboratory equipment supplies and chemicals.

WORKING EXPERIENCE

Laboratory Assistant

SEP 2021- APR-2022

Genotyping and Botany Laboratory
Canadian Food Inspection Agency.
Ottawa ON.

- Performing bench protocols using basic laboratory techniques.
- DNA extraction.
- PCR analysis.
- PCR Data analysis.
- Data entry and database management.
- Laboratory support functions related to sample and reagent preparation, decontamination, glassware, and laboratory maintenance.

Laboratory Assistant

MAY 2021- AUG 2021

Plant Pathology Laboratory
Canadian Food Inspection Agency.
Ottawa ON.

- Performing bench protocols using basic laboratory techniques
- Seed and plant preparation for pathogen analysis.
- Seed wash and slides preparation for microscope analysis
- Laboratory support functions related to sample reception, sample and reagent preparation, decontamination, glassware, and laboratory maintenance.
- Media preparation.
- QA of balances and eye wash maintenance.
- Use of microscopes for morphological analysis.

- Establishment of cultures on safety cabinets
- Data entry and database management

Quality control Assistant (Internship)

SEP 2020 - APR 2021

Evik Diagnostic Innovations
Ottawa ON.

- Conduct quality control tests
- Reagent preparation for analysis
- Quality Assurance
- Accuracy of recorded information as per the Quality Management system

Entrepreneur (Self-employed)

2009 - 2020

- Business Management
- Advertisement
- Customer Service
- Web design.
- Training of personal to provide service to big events

Spanish Teacher and interpreter (Self-employed)

2008 – 2009

Interpreter and translator for seasonal workers at Simcoe County, ON., providing information on crop management and SOP instructions for the recollection and guidelines to low the rates of contamination between crops.

-Spanish private instructor for travelers and business managers.

Research Associated

1998 - 2007

Department of Plant Biotechnology
Center of Research and Assistance in Technology

and Design of Jalisco State (CIATEJ). Mexico.

- Design and implementation of the molecular biology lab, Lab Management, and administration.
- Elaboration of technical and financial proposals for science projects.
- Training of personnel and students on molecular biology, and tissue culture techniques.
- Tissue culture of vegetable species as Agave tequilana, Carica papaya, and others.
- Micropropagation and genetic improvement of vegetable species
- Evaluation in vivo and in vitro of chemical products for the control of pest
- Deliver courses for industry and Universities.
- Development and implementation of SOP.
- Management and Quality control of the production of Tissue culture material.
- Quality Assurance through equipment inspection and problem resolution.
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- Implementation of ISO-9000 system on the Biotechnology department and part of the institutional quality control project as Internal Auditor.

Research invited (Sabbatical)

2005 - 2006

University of Guelph, ON, Canada.

Department: Environmental Biology. (Dr. Paul Goodwin)

- Analysis and design of primers.
- Bacterial and fungus culture and infection in plants.
- RNA and DNA extraction.
- PCR analysis.

Research Assistant

1997 - 1998

Department: Biotechnology and Biochemical.

Molecular and Genetic Plant Pathology Laboratory.

CINVESTAV I.P.N. U-Irapuato (Research Center and Advanced studies from the National Institute Polytechnic, Irapuato-Unit).

Irapuato, Guanajuato, Mexico.

- Lab Management and administration.
- Project administration
- Quality assurance
- Diagnostic of pathogens using molecular biology techniques

- Training of students on molecular biology techniques.
- Field sampling.
- Extraction and analysis of DNA.
- Organization of scientific events and congress.
- Presentations of research projects in courses and congress.

CERTIFICATIONS

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| • WHMIS. | 2021 |
| • Biological Safety Cabinets | 2021 |
| • Containment L2. | 2019 |
| • Introduction to Biosafety. | 2019 |
| • OHSA. | 2019 |

PARTICIPATION IN RESEARCH PROJECTS

- Identification of novel plant defense response to infection by *Colletotrichum* and *Pseudomonas* species. 2005 Goodwin P. **Rios-Bocanegra M.** (Sabbatical).
- Determination of the genome size, levels of ploidy and molecular characterization of “Agaves from Mexico” 2005. Rodriguez-Garay B., Gutierrez- Mora A., Juarez-Sanchez M., **Rios-Bocanegra M.**, Rodriguez-Dominguez J. M., Loera- Quezada M.M., Acevedo-Hernández G., Urbina-López D.
- Development of method for the regeneration and genetic development of *Paulownia elongata*. 2003. Rodriguez-Dominguez J. M., Rodriguez-Garay B., **Rios-Bocanegra M.**, Juarez-Sanchez M., Torres-Moran M. I.
- Technological development for the generation of a germplasm bank of *Agave tequilana* Weber var. Azul disease resistant. 2002 Rodríguez- Garay B., Gutierrez- Mora A. Santacruz- Ruvalcaba F., Loera-Quezada M. M., **Rios-Bocanegra M.**, Torres- Moran M. I., Lopez-Alcocer.
- Micropropagation and genetic improvement of *Carica papaya* var. Maradol. 2001 Gutierrez- Mora A., Santacruz- Ruvalcaba F., Rodriguez-Garay B., **Rios-Bocanegra M.**, Torres-Moran M. I.
- Determination of the most appropriate physiological age of harvest of the *Agave tequilana* Weber var. Azul according to the sugar accumulation. 2001 Castillo-Figa M., **Rios-Bocanegra M.**

- Inhibitor effect in the synthesis of bacterial and fungi polyamines for the control of pathogen microorganisms in *Agave tequilana* Weber var azul. 2000 Rodriguez-Garay B., Gutiérrez-Mora A. Santacruz- Ruvalcaba F., Loera-Quezada M. M., Obledo-Vázquez E. N., **Rios-Bocanegra M.**, Torres- Moran M. I., Lopez-Alcocer J. J., Flores- Hernandez R., Cervantes- Martinez J., Martinez-Soriano J. P., Gomez-Leyva J. F., Vicente-Ramirez I., Garcia-Galindo J and and Sanchez-Pena M. J.
- Evaluation *in vitro* of the product SULTEC in the control of *Erwinia carotovora* y *Fusarium sp.* isolated from sick plants of *Agave tequilana* Weber var. Azul.1999 Rodriguez-Garay B., Gutierrez-Mora A., **Rios-Bocanegra M.**, Torres Moran M. I., Santacruz-Ruvalcaba F.
- Establishment of tissue culture of three varieties of Agave mezcalero in the technological support program for the quality improvement of mezcal 1999. Rodriguez- Garay B., Gutierrez- Mora A. Santacruz- Rubalcava F., Loera-Quezada M. M., **Rios-Bocanegra M.**, Torres- Moran M. I., Rodríguez-Dominguez J. M.
- Development of molecular techniques of high sensitivity for the detection of the most important pathogens in *Agave tequilana* Weber var. Azul **1998. Ríos-Bocanegra M.**, Nazar R.N., Robb J., Leal-Klevezas D.S., González-Garza R., Virgen-Calleros G., Gómez-Leyva J.F., Rodríguez-Garay B., Martínez-Soriano J.
- Molecular detection of causal agents of potato syndromes “Punta morada” and “Bola de hilo” in asymptomatic tubers and host insects. 1998 Martinez-Soriano J. P., Zavala-Soto M. E., **Rios-Bocanegra M.**, Beres M., Leal-Klevezas D. S.
- Molecular detection of causal agent of “Punta morada” in vector insects and host weeds. 1998 Martinez-Soriano J. P., Zavala-Soto M. E., **Rios-Bocanegra M.**, Beres M., Leal-Klevezas D. S.
- *cry1Aa* gene transcription in *Bacillus subtilis* (Bsc Tesis) 1995. Rios-Bocanegra M., Vazquez-Cruz C., Olmedo- Alvarez G.

REFERENCES

- **Marie-Claude Gagnon**
Head, Genotyping and Botany
Canadian Food Inspection Agency
Ottawa, ON, Canada
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343-212-0282
- **Conrad Hutter**
Diagnostic Plant Pathologist
Canadian Food Inspection Agency
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- **Veronika Eroukova**
Quality Control Manager.
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