

# CURRICULUM VITAE

## **ILIANA GUARDIOLA AVILA, PhD.**

### **Senior Lab Technician**

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## **EDUCATION**

- 2010-2014 Ph.D. Degree in Science, Molecular Microbiology Specialty. Center for Research in Food and Development, A.C. Hermosillo, Sonora, Mexico.
- 2000- 2002 Master's Degree in Science, Microbiology Specialty. Center for Research in Food and Development, A.C. Hermosillo, Sonora, Mexico.
- 1994- 1999 Bachelor of Science Degree in Chemist Biologist, Food Technology Specialty. Sonora University. Hermosillo, Sonora, Mexico.
- 1991-1994 Food Technician Degree. Center for Industrial Technological Baccalaureate and Services No. 132 (advanced technical high school). Hermosillo, Sonora, Mexico.

## **PROFESSIONAL EXPERIENCE**

- 2021- Senior Laboratory Technician  
UTRGV – The University of Rio Grande Valley  
McAllen, Texas
- 2015-2019 CONACYT Research Fellow (National Council for Science and Technology - Federal Government Agency) in the Genomic Biotechnology Center – National Polytechnic Institute (CBG-IPN)  
Reynosa, Tamaulipas, Mexico.
- 2014-2015 Professor: General Microbiology Laboratory, Biochemistry I Laboratory, Parasitology Laboratory and Biochemistry II Laboratory.  
Durango Santander University, Medicine Department  
Hermosillo, Sonora, Mexico.
- 2014 Professor: Basic Integration Laboratory (Microbiology).  
Sonora University, Biological and Chemical Sciences Department  
Hermosillo, Sonora, Mexico.
- 2006-2010 Quality Chief (quality manager)  
Lancer - Mexican Livestock Company  
Hermosillo, Sonora, Mexico.

- 2003-2005     Quality Control Inspector  
                  Bachoco  
                  Lagos de Moreno, Jalisco, Mexico.
- 2003            Microbiology and Quality Inspection Analyst  
                  Condiments of Mexico  
                  San Luis Potosí, SLP, Mexico.

## LECTURES

1. Instructor of the Theoretical-Practical course: Alternative Methods of Molecular Techniques I. Authorized by the CGFIE (General Coordination of Training and Educational Innovation of the National Polytechnic Institute) with curricular value for teachers. Genomic Biotechnology Center - IPN. Reynosa, Tamaulipas. Duration 30 hours. October 23 to 27, 2017.
2. Instructor of the Bioinformatics Workshop: Assembling and Annotation of Bacterial Genomes. Autonomous University of Tamaulipas Reynosa, Aztlán Multidisciplinary Academic Unit. Reynosa, Tamaulipas. Duration 40 hours. September 28 to October 1, 2017.
3. Instructor of the Theoretical-Practical course: Introduction to Bioinformatics Programs, Mauve and Geneious. Authorized by the CGFIE with curricular value for teachers. Genomic Biotechnology Center - IPN. Reynosa, Tamaulipas. Duration 30 hours. May 29 to June 2, 2017.
4. Lecturer at the 2<sup>nd</sup> National Health Conference and 1<sup>st</sup> Binational Health Conference "Continuing Education for Professional Success" Autonomous University of Tamaulipas, Aztlán Unit. Lecture: Molecular Methods for the Identification of Microorganisms in Foods." Reynosa, Tamaulipas. October 24, 2016.
5. Lecturer of Departmental Seminar: Food Safety. CBG-IPN. Reynosa, Tamaulipas. February 29, 2016.
6. Lecturer at the Characterization of Microorganisms in Molecular Techniques course for the Graduate Program at the Center for Research in Food and Development, A.C., in sequencing methods - techniques for detection and microbial characterization. May 2014.

## PUBLICATIONS

1. Martínez-Vázquez V, **Guardiola-Avila I**, Flores-Magallon R, Rivera G, Bocanegra-García V. 2021. Detection of multidrug resistance and methicillin-resistant *Staphylococcus aureus* (MRSA) isolates from retail meat in Tamaulipas, Mexico. *Annals of Microbiology* 71:16. <https://doi.org/10.1186/s13213-021-01627-7>
2. **Guardiola-Avila I**, Sánchez-Busó L, Acedo-Félix E<sup>†</sup>, Gomez-Gil B, Zúñiga-Cabrera M, González-Candelas F, Noriega-Orozco L. 2021. Core and Accessory Genome Analysis of *Vibrio mimicus*. *Microorganisms* 9,191. <https://doi.org/10.3390/microorganisms9010191>.
3. **Guardiola-Avila I**, Martínez-Vázquez V, Juárez-Rendón KJ, Alvarez-Ainza M, Paz-González A, Rivera G. 2020. Prevalence and virulence of *Vibrio* species isolated from raw shrimp from retail markets in Reynosa, Tamaulipas. *Letters in Applied Microbiology*, 71(3):280-286. [doi.org/10.1111/lam.13315](https://doi.org/10.1111/lam.13315).

4. **Guardiola-Avila I**, Martínez-Vázquez V, Requena-Castro R, Rivera G, Juárez-Rendón KJ, Rivera G, Bocanegra-García V. 2018. Isolation and identification of *Vibrio* species in the Rio Bravo/Grande and water bodies from Reynosa, Tamaulipas. *Letters in Applied Microbiology*, 67: 190-196.
5. Cruz-González E, Martínez-Vázquez AV, García-León I, **Guardiola-Avila IB**, Rivera-Sánchez G, Bocanegra-García V. 2017. Detection of virulence factors in *Escherichia coli* isolated from meat in northeastern Tamaulipas. In: *Research in Science and Food Safety*. Guadalajara University. 1<sup>st</sup> ed. pp. 522-525. ISBN: 978-607-8490-35-6. Guadalajara, Jalisco, México.
6. Juárez-Rendón KJ, Rivera Sánchez G, Reyes-López MA, García-Ortiz JE, Bocanegra-García V, **Guardiola-Avila I**, Altamirano-García ML. 2017. Alopecia Areata. Current situation and perspectives. *Arch Argent Pediatr* 115(6): e404-e411.
7. **Guardiola-Avila I**, Martínez-Vázquez AV, Requena-Castro R, Rivera Sánchez<sup>SEP</sup>G, Bocanegra-García V. 2017. Isolation and Identification of *Vibrio cholerae* Isolated from the Río Bravo flow in the Reynosa Region, Tamaulipas. *CiBlyT magazine* 12(35): 183-186. ISSN 1870-056X.
8. Martínez-Vázquez V, García-León I, **Guardiola-Avila I**, De Luna-Santanilla Erick, Rivera G, Bocanegra-García V. 2017. *Enterobacteriaceae* Isolated on Raw Chicken for Sale in Reynosa, Tamaulipas. *CiBlyT magazine* 12(35): 51-53. ISSN 1870-056X.
9. Martínez-Vázquez AV, Reyes-López MA, **Guardiola-Avila I**, Bocanegra-García V. 2016. Distribution prevalence of *Salmonella* spp. in beef and pork commercial in Tamaulipas. In: *Studies in Food Safety and Microbiology*. Guadalajara University. 1<sup>st</sup> ed, pp. 226-229. ISBN: 978-607-8490-07-3. Guadalajara, Jalisco, México.
10. **Guardiola-Avila, I.**, Acedo-Felix, E., Yepiz-Plascencia, G., Sifuentes-Romero, I. y Gómez-Gil. B, Noriega-Orozco, L. 2016. Molecular and Genomic Characterization of *Vibrio mimicus* isolated from a frozen shrimp processing facility in Mexico. *PLoS ONE* 11(1): e0144885. doi:10.1371/journal.
11. L. Félix-Valenzuela, **I. Guardiola-Avila**, A. Burgara-Estrella, M. Ibarra-Zavala, V. Mata-Haro. 2015. Genotypic and phenotypic diversity of *Alicyclobacillus acidocaldarius* isolates. *Letters in Applied Microbiology* 61: 367-373. doi:10.1111/lam.12464
12. **Guardiola-Avila, I.**, Noriega-Orozco, L., Gomez-Gil B, Acedo-Félix, E. 2015. Virulence Factors of *Vibrio mimicus*. *BIOTecnia magazine* VXII(2): 38-49.
13. **Guardiola-Avila, I.**, Acedo-Félix, E., Lara, A.E., Tapia-Olea, M.M., Noriega-Orozco, L. 2015. Presence of the hemolysin gene of *Vibrio mimicus* in fish and seafood products in Sonora, México. *Journal of Food Research* 4(1): 66-76.
14. **Guardiola-Avila, I.**, Acedo-Felix, E., Noriega-Orozco, L., Yepiz-Plascencia, G., Sifuentes-Romero, I. y Gómez-Gil. B. 2013. Draft Genome Sequence of *Vibrio mimicus* Strain CAIM 602T. *Genome Announcements* 1(2): e00084-13.
15. **Guardiola-Avila I.**, Noriega-Orozco L., Acedo-Félix E. Technical Report: Detection of *Vibrio mimicus* in food and clinic samples. Delivery to the State Public Health Laboratory of the State of Sonora (LESP). November 2011.
16. Sánchez-Mariñes, R.I., **Guardiola-Avila, I.B.**, Moreno-Ibarra, G.M., Castellón-Campaña, L.C., Escárcega-Urquijo, H.M. 2001. Sanitary study of Food Consumption in a Child Development Center of Hermosillo Sonora. *Biociencia Magazine* 2(3): 92-97.

## THESIS COMMITTEES

1. Member of the Thesis Tutorial Committee of Zulema Zavaleta Colorado, assigned to the career of Pharmaceutical Chemist Biologist of the Autonomous University of Tamaulipas, Reynosa-Aztlán Multidisciplinary Academic Unit, with the thesis topic "Identification and molecular analysis of the G84E mutation and other variants in the HOXB13 gene from Mexican patients with prostate cancer". Degree exam in May 2019.
2. Thesis Director of the student Emmanuel Hernández Barrera assigned to the career of Pharmacist Chemist Biologist of the Autonomous University of Tamaulipas, Reynosa-Aztlán Multidisciplinary Academic Unit, with the thesis topic "Identification and characterization of *Vibrio* strains isolated from shrimp in Reynosa, Tamaulipas." Degree exam in April 2019.
3. Thesis Director of Tutorial Committee for Eduardo Cruz González of the Master of Science Program for CBG-IPN. With the thesis theme, "Identification of serotypes and their correlation with antimicrobial susceptibility in *Escherichia coli* isolated of meat in the northeast of Tamaulipas." Degree exam in August 2018.
4. Member of the Thesis Tutorial Committee for Manuel Alejandro Castro García of the Master of Science Program for CBG-IPN. With the thesis theme "Identification and analysis of variants in genes HOXC13 and HOXD13 of Mexican patients with cervical cancer." Degree exam in August 2018.
5. Member of the Thesis Tutorial Committee for Glafira Marysol Cortés Leal of the Master of Science Program for CBG-IPN, with the thesis theme, "Identification of sequence tags expressed in cultivated beans in water deficit conditions and *Macrophomina phaseolina* (TASSI) GOID." Degree exam in January 2018.

## CONFERENCES

1. Hernández-Barrera E, Rodríguez-Castillejos G, Juárez-Rendón K, Martínez-Vázquez V, Hernández-Jiménez C, Guardiola-Avila I. V International Meeting on Biotechnology at the UATx. Poster presentation: Isolation of *Vibrio parahaemolyticus* in shrimp commercialized in Reynosa, Tamaulipas. Tlaxcala, Mexico. December 2-5, 2018.
2. Santacruz-Calderón AA, García-Olivares JG, Guardiola-Avila IB, Rodríguez-Castillejos GC, Hernández-Mendoza JL, Lizarazo-Ortega C. II Binational Congress of Biotechnological Issues. Poster presentation: Blackberry production under different organic amendments. Reynosa, Tamaulipas. September 13-14, 2018.
3. Cruz-González E, Martínez-Vázquez AV, Guardiola-Avila I, Reyes-López MA, Bocanegra-García V. 7th National Symposium and 1st International of Chemical Engineering and Applied Biochemistry 2018. Poster presentation: Detection of enterohemorrhagic *Escherichia coli* isolated from beef in Matamoros, Tamaulipas. Irapuato, Guanajuato. September 12-14, 2018.
4. Cruz-Gonzalez E, Martínez-Vázquez AV, de Luna-Santillana E, Guardiola-Avila I, Bocanegra-García V. 7th National Symposium and 1st International of Chemical Engineering and Applied Biochemistry 2018. Poster presentation: Prevalence of *Klebsiella sp* in commercial pork meat in Matamoros, Tamaulipas. Irapuato, Guanajuato. September 12-14, 2018.
5. Guardiola-Avila I, Aguilera-Arreola G, Martínez-Vázquez V, Requena-Castro R, Rivera G, Bocanegra-García V. 7th National Symposium and 1st International of Chemical Engineering and Applied

Biochemistry 2018. Poster presentation: Isolation and identification of bacteria with NaCl tolerance from the water of the Rio Grande. Irapuato, Guanajuato. September 12-14, 2018.

6. Cruz-González E, Martínez-Vázquez V, Guardiola-Avila I, Lira-Mendez K, Reyes-López M, Bocanegra-García V. 30<sup>o</sup> National Meeting of Scientific and Technological Research of the Gulf of Mexico. Poster presentation: Diversity of Enterobacteria isolated from ground beef in the city of Río Bravo, Tamaulipas. Altamira, Tamaulipas. May 24-25, 2018.
7. García-Olivares JG, Quiroz-Velásquez JDC, Lizarazo-Ortega C, García-León I, Hernández-Mendoza JL, Guardiola-Avila IB. 72th Annual Meeting, Subtropical Agriculture and Enviroments Society. Poster presentation: Metagenomic analysis of sludge from gas wells in the Burgos basin Tamaulipas, Mexico. Monte Alto, Texas, U.S. February 9, 2018.
8. Cruz-González E, Martínez-Vázquez AV, García-León I, Guardiola-Avila IB, Rivera-Sánchez G, Bocanegra-García V. XIX International Food Safety Conference, XXXIV National Meeting of Microbiology, Hygiene and Food Toxicology. University of Guadalajara. Poster presentation: Detection of virulence factors in *Escherichia coli* isolated from meat in northeastern Tamaulipas. Nuevo Vallarta, Nayarit. November 2-4, 2017.
9. Guardiola-Avila I, Martínez-Vázquez V, Requena-Castro R, Rivera G, Bocanegra-García V. 6th National Symposium on Chemical Engineering and Applied Biochemistry (SNIQB) IMIQ Regional Forum. Poster presentation: Isolation and Identification of *Vibrio cholerae* Isolated from the Rio Grande Flow in the Region of Reynosa, Tamaulipas. Tlaxcala, Tlaxcala. September 11-13, 2017.
10. Martínez-Vázquez V, García-León I, Guardiola-Avila I, De Luna-Santanilla Erick, Rivera G, Bocanegra-García V. 6th National Symposium on Chemical Engineering and Applied Biochemistry (SNIQB) IMIQ Regional Forum. Poster presentation: *Enterobacteriaceae* Isolated on Raw Chicken for sale in Reynosa, Tamaulipas. Tlaxcala, Tlaxcala. September 11-13, 2017.
11. Guardiola-Avila I, Lara AE, Tapia-Olea MM, Martínez-Borras A, Noriega-Orozco L. International Congress on Food Science and Biotechnology, University of Sonora. Poster Presentation: Presence of *vmh* gene of *V. mimicus* in shrimp and clinical samples of the State of Sonora, Mexico. Hermosillo, Sonora. November 16-18, 2016.
12. Martínez-Vázquez V, Reyes-López MA, Vázquez-Villanueva J, Guardiola-Avila I, Bocanegra-García V. International Congress on Food Science and Biotechnology, University of Sonora. Poster presentation: Genotypic identification of tetracycline resistance in *Escherichia coli* obtained from meat commercialized in Reynosa, Tamaulipas. Hermosillo, Sonora. November 16-8, 2016.
13. Guardiola-Avila I, Martínez-Vázquez V, Requena-Castro R, Rivera G, Reyes-López MA, Bocanegra-García V. 10th National Meeting of Biotechnology of IPN. Poster presentation: Detection of *Vibrio cholerae* in canal water in Reynosa, Tamaulipas. Cuernavaca, Morelos. October 24-28, 2016.
14. Martínez-Vázquez AV, Reyes-López MA, Guardiola-Avila I, Bocanegra-García V. XVIII International Congress on Food Safety. Poster presentation: Distribution prevalence of *Salmonella spp.* in beef and pork commercial in Tamaulipas. Guadalajara Jalisco. September 30 and October 1, 2016.
15. Regional Symposium in Tuberculosis Update. Center for Genomic Biotechnology, IPN and Secretary of Health of the Government of the State of Tamaulipas. Reynosa, Tamaulipas. August 25-26, 2016.
16. International Symposium in Applied Microbiology. Autonomous University of Tamaulipas Aztlán Unit. Reynosa, Tamaulipas. June 29-30, 2016.

17. First Bi-national Conference in Biotechnology Issues 2016. Genomic Biotechnology Center, IPN. Reynosa, Tamaulipas. June 20-22, 2016.
18. Guardiola-Avila I, Martínez-Vázquez V, Requena-Castro R, Bocanegra-García V. 28th National Meeting of Scientific and Technological Research of the Gulf of Mexico (ATICTAC). Poster presentation: Isolation and identification of *Vibrio* in water from Rio Bravo. Altamira, Tamaulipas, May 19-20, 2016.
19. Guardiola-Avila I, Acedo-Félix E, Sifuentes-Romero I, Gómez-Gil B, Noriega-Orozco L. International Conference: *Vibrio* 2014. Poster presentation: Genome of *Vibrio mimicus* isolated from shrimp process. Edinburgh, United Kingdom. April 2- 4, 2014.
20. M.E. Díaz-Cinco, I. Guardiola, C. Eslava, E. Acedo-Félix, J. Hernández, H. González-Rios, A. García-Galaz. Partial characterization of *Escherichia coli*, isolated from fresh white cheese, based on its virulence factors. XI International Congress of Bacteriology and Applied Microbiology. ASM. San Francisco, California, USA. July 23-28, 2005.

## ADDITIONAL TRAINING

1. Certificate in Online Teaching. UTRGV - Office Professional Education and Workforce Development. July 20, 2022.  
[https://api.accreditable.com/v1/frontend/credential\\_website\\_embed\\_image/certificate/55227309](https://api.accreditable.com/v1/frontend/credential_website_embed_image/certificate/55227309)
2. REMOTE 2022: Maximizing Success for Learners. ASU Learning Enterprise. July 2, 2022. Digital Badge. <https://learning.asu.edu/>
3. Evacuation Assistant/Fire Extinguisher Training. UTRGV. Department of Environmental Health, Safety, and Risk Management. Fulfills Requirements of NFPA Life Safety (101) Sections 4.8.1(2), 4.8.2.1 (Emergency Plan Requirements), and 39.7.3 (Extinguisher Training) and Title 29 of Code of Federal Regulations (CFR) 1910.157 – Portable Fire Extinguishers. June 16, 2022. Valid for 1 year.
4. COVID-19 General Awareness. UTRGV. Department of Environmental Health, Safety, and Risk Management. October 29, 2021. December 17, 2021.
5. Stop the Bleed Course. American College of Surgeons. UTRGV. Department of Environmental Health, Safety, and Risk Management. October 29, 2021.
6. Basic American Sign Language Sessions. UTRGV. Duration Four Hours. September 24, 2021.
7. Adult and Pediatric First Aid/CPR/AED with Epinephrine Auto-Injector and Asthma Inhaler. American Red Cross. August 18, 2021. Valid for 2 years.
8. Clinical Safety Training. UTRGV. Department of Environmental Health, Safety, and Risk Management. Fulfills the Requirements of OSHA Bloodborne Pathogens Standard (29CFR 1910.1030), Texas Administrative Code Bloodborne Pathogens Control (Title 25, Part 1, Chapter 96) and Minimum Standard (Chapter 81.304). June 1, 2021. Valid for 1 year.
9. Laboratory Safety / Hazard Communication Training. UTRGV. Department of Environmental Health, Safety, and Risk Management. Fulfills Requirements of Texas Hazard Communication Act (Texas Health and Safety Code sec. 502.009), Occupational Exposure to Hazardous Chemicals in Laboratories (29CFR 1910.1450), OSHA Hazard Communication Standard (HCS), Standards Applicable to Generators of Hazardous Waste (40CFR Part 262-264). May 26, 2021. No expiration.

10. Evacuation Assistant/Fire Extinguisher Refresher Training. UTRGV. Department of Environmental Health, Safety, and Risk Management. Fulfills Requirements of NFPA Life Safety (101) Sections 4.8.1(2), 4.8.2.1 (Emergency Plan Requirements), and 39.7.3 (Extinguisher Training) and Title 29 of Code of Federal Regulations (CFR) 1910.157 – Portable Fire Extinguishers. July 21, 2021. Valid for 1 year.
11. Food Handler Training. UTRGV. Department of Environmental Health, Safety, and Risk Management. Texas Food Establishment Rules Requirements. Duration 6 hours. May 20, 2021, Valid for 2 years.
12. Bioinformatics Workshop: Assembly and Annotation of Genomes and Metagenomes. National Bioinformatics Node (NNB-CC), online modality, Mexico. Duration 40 hours. From August 03 to 07, 2020.
13. Bioinformatics workshop: RNA-Seq and differential expression analysis. Faculty of Agronomy of the Autonomous University of Nuevo Leon (FA-UANL), Biotechnology and Plant Genomics and the Functional Genomics Laboratory of the CIIDIR-IPN Sinaloa Unit. Monterrey, Nuevo León, Mexico. October 1-3, 2018.
14. Workshop Exploratory and statistical analysis of biological data using R. TIB2018: R for all & Latin American R / Bioconductor Developers Workshop. Center for Genomic Sciences-UNAM (CCG-UNAM), Cuernavaca, Morelos, Mexico. July 30 to August 03, 2018.
15. Tools GNU/Linux Workshop: NGS Data and Analysis of 16S rRNA Applications. CBG-IPN. Reynosa, Tamaulipas. Duration 40 h. April 17-21, 2017.
16. Phylo-Informatics Workshop: Homology, Alignment, and Phylogenetic Inference. International Workshops on Bioinformatics 2017 at the Center for Genomic Sciences-UNAM (CCG-UNAM). Cuernavaca, Morelos, Mexico. January 16-27, 2017.
17. Bioinformatics Skills Workshop: Introduction to Unix, R, Python, and Control of Versions with Git. International Workshops on Bioinformatics 2017. Center for Genomic Sciences-UNAM (CCG-UNAM). Cuernavaca, Morelos, Mexico. January 16-27, 2017.
18. High-Resolution Liquid Chromatography (HPLC) Course. CBG-IPN, Reynosa, Tamaulipas. Duration 30 hours. September 26-30, 2016.
19. Introduction to Bioinformatics with Linux Course. CBG-IPN, Reynosa, Tamaulipas. Duration 40 hours. June 13-17 and June 27-30, 2016.
20. Quantification and Certification of Genetically Modified Organisms Course. Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA), National Service of Health, Safety and Agro-Food Quality (SENASICA), and Inter-Secretariat Committee on Biosafety of Genetically Modified Organisms (CIBIOGEM). Place SENASICA / CNRDOGM. Tecámac, State of Mexico. January 13-15, 2016.
21. Research stay in the Bacteriology Laboratory of the CIAD Mazatlán, México. Application of bioinformatics analyses to the entire genome of 11 bacterial strains (*V. cholerae* and *V. mimicus*). July 7-17, 2014.
22. Research stay in the Instituto de Agroquímica y de Tecnología de Alimentos (IATA) in Valencia, Spain. 1) Phylogenetic analyses (Mauve, Geneious, R program, MEGA). November 4, 2013, to January 31, 2014.

23. Genomic Microbial Sequences Analysis Workshop. Mazatlán, Sinaloa. Imparted by Microbial Genomics Group Research Center for Food and Development, AC, Unit Mazatlan Aquaculture and Environmental Management. November 29-30, 2012.
24. Research stay at the Laboratory of Bacteriology of CIAD Mazatlán, México. 1) Training and obtainment of the complete genome of four bacterial strains (*V. mimicus*) using Ion Torrent technology. 2) Training and Application of Bioinformatics analyses (Mauve, Geneious, GENEWIZ Browser, CLC Sequencer Viewer) Analysis. September 28 to December 12, 2013.
25. Biological Reactors Design Course. Hermosillo, Sonora. Sonora University. Chemical Engineering and Metallurgy Department. Imparted by PhD. José A. Teixeira Couto, Minho University, Portugal. Duration 30 hours. January 10-14, 2011.
26. Theoretical and Practical Course on Diagnostics *Triquinella spiralis* by trichinoscopy and artificial digestion methods. Cd. Obregon, Sonora. Accredited by the National Service Center in Animal Health, SAGARPA. March 18-19, 2010.
27. Update on Food Microbiology. Accredited by the ANETIF Foundation. Hermosillo, Sonora. May 22, 2007.
28. Development and Implementation of HACCP programs for the Food Industry. Accredited by the International HACCP Alliance. Hermosillo, Sonora. October 18-20, 2006.
29. Research stay in the Public Health Laboratory from Medicine Faculty. National Autonomous University of México. 1) Capacitation in the Identification of *E. coli* using serological methods, 2) Identification of genes associated with virulence through Polymerase Chain Reaction (PCR) and 3) In vitro essays with cell cultures for the determination of the virulence expression factors. November 5, 2001 to August 12, 2002.

## ACKNOWLEDGMENTS

1. Distinction of Level I National Investigator by the National System of Researchers of CONACyT. From January 2019 to December 2021.
2. Recognition for participation as a Jury Qualifier for poster presentations during the II Binational Congress of Biotechnology Topics. Reynosa, Tamaulipas. September 13-14, 2018.
3. Recognition for participation in the "3<sup>rd</sup> Child Science Fair, and 2<sup>nd</sup> Demonstration of prototypes" with a demonstration stand of identification of bacteria. CBG-IPN. Reynosa, Tamaulipas. November 22-24, 2016.
4. Recognition for First Place in Microbiology and Toxicology category. Professional poster modality with work in "Presence of the *vmh* gene of *V. mimicus* in shrimp and clinical samples of the State of Sonora, Mexico," presented at the International Conference on Sciences Food and Biotechnology at Sonora University. Hermosillo, Sonora. November 2016.
5. Recognition for participation as a Jury Qualifier for poster presentations during the International Conference in Food Sciences and Biotechnology at Sonora University. Hermosillo, Sonora. November 17-18, 2016.
6. Recognition for participation as a Consultant and Adviser for the project entitled "Garlic and Its Antibacterial Properties, Alternative Medicine," by three students from the Center for Industrial



Technological Baccalaureate and Services No. 7 of Reynosa, Tamaulipas. This project competed in the Contest of Researchers for Media Superior in Tamaulipas 2016.

## **TV INTERVIEW**

1. Date November 19, 2021. Title: Pancreatic Cancer Awareness Month. Telemundo 40 Rio Grande Valley. NBC Universal Owned Television Stations.