

Adriana Quintanar Guzmán Ph. D.

2626 Topflite Dr. Akron, OH 44312 • (573) 239-8883 • adrianaquintanarguzman@yahoo.com.com •

TECHNOLOGY INNOVATION MANAGER / CONSULTANT & FOOD SCIENCE AND TECHNOLOGY RESEARCHER

- Extremely talented, self-motivated, enthusiastic Food Scientist and **Doctor of Philosophy in Food Science** with expertise in developing new products and better ways of preserving, processing, packaging, storing, and delivering foods in food manufacturing.
- Offering more than 20 years of proven successful track record of driving groundbreaking advancement in food manufacturing companies in Mexico, Latin America, United States and Europe.
- Plus 18 years of experience in academic and scientific research at different universities.

Core Competencies Include

- Large experience in formulation development of new product innovation and new technologies
- Comprehensive experience in proof of concept work and establishment of process and product's specifications.
- Strong organizational skills and able to lead change, build consensus and drive results with team members and senior management.
- Proven ability to handle multiple projects simultaneously and to critically appraise scientific information, target written and oral communications for wide range of audiences both internally and externally.
- Excellent communication skills (both written and oral), presentations, attention to detail, and superb project management skills.
- Superb understanding of statistical approaches used in design of experiments, results processing and Statistical Process Control.
- Expertise in the retrieval and analysis of relevant literature, and proficiency in presenting cases.
- Proficient in new product development (Stage-Gate Process) – new foods; and Quality Assurance.
- Strong teaching skills for training personnel in different aspects of improving processes and products' standards.
- Active participation in all aspects of sensory evaluation including consumer, trained and expert panels
- Solid participation in developing supplier partnership.
- Knowledgeable of government labeling regulations and computerized nutrient analyses systems.
- Fluent in Spanish and English

PROFESSION EXPERIENCE

Food Industry Consultant (2007 – present)

Super Ricas Ltda., Bogotá, Colombia (2011 – 2012), **Holiday Snacks, Prince Port, Trinidad and Tobago** (2011 –2012, 2018, 2020 and 2021), **Productos Maria, Santiago City, Dominican Republic** (2011) and **Productos Maria, Montego Bay, Jamaica** (2015). **CJB and Associates, Dallas TX** (2012 –Present).

- Improved tortilla chip texture and appearance. Developed new tortilla chip products. Developed new tortilla chip processes.
- Selected and trained sensory judges and other analytical skills (statistical analysis).
- Developed and implemented new product and process specifications.
- Unexpected causes of oil oxidation during processing.

R.G. Kasat, Karnataka, India (2016 – present), **Silesian Flour, Ziebice, Poland** (2018 – present).

- Equipment selection, establishment of process parameters and product's functional quality parameters for producing nixtamalized corn flour (table tortillas, tortilla chips, corn chips, taco shells, etc.)
- Improvement of nixtamalized corn flour for tortilla chip.

Sensient Mexico, International Flavor and Fragrances Mexico (2014 – present) and **Inka Crops Lima, Peru** (2014- Present)

- Implementing Statistical Process Control. Implementing the design of process and product specifications. Conducting and training personnel in the use of Basic Statistic tools.

Pepperidge Farm, Norwalk CT (2013 – 2014)

- Solved issues with extruded snack food: raw materials and equipment.

Viva La Papa. Lima, Peru (2013 – 2014)

- Resolved Issues with bag sealing, oil rancidity and shelf life of a snack food product. Development of product and process functional specifications.

Quala Mexico. Toluca Mexico (2013) and Productos Alimenticios Bocadeli S.A. de C.V. (2015 – present)

- New food snack products development. Trained R&D, QA and production personnel for sensory panel members and other analytical skills (statistical analysis).

Armstrong Teasdale. Attorney. St. Louis. MO (2012 – 2013) and Davis Wright Tremaine LLP, Attorney, Seattle WA (2014)

- Expert witness in a Litigation regarding tortilla chip process/equipment/intellectual property

MINSA, Mexico State, Mexico (2011 – 2012), Heat and Control, Guadalajara Jalisco, México (2009 – 2013)

- Developed new technology to produce masa for tortillas without tortilla flavors and nixtamalized corn for extruded products. Detected weak process points and its correction to improve quality consistency of final products for "snacks."
- Developed technology for corn nixtamalization at room temperature, including process. Patent application in progress.
- Provided technical advice for equipment design changes for snacks (nixtamalized corn, pellet, extruded products, potato, oil treatment-recovery, etc.)

Fritolay North America-Headquarters Plano, TX, USA (2007 - 2008)

- Provided technical advice for corn cooking optimization including process conditions to maximize the pericarp (hull) retention during corn nixtamalization to deliver at least 8g/serving Whole Grain in corn snacks
Prepared technical information to initiate the patent application for the new nixtamalization process. Patent application in progress.

Short courses for the snack industry

- Industrial production of tortilla chip, products like Tostitos, Fritos, churritos, etc.
- Industrial production of potato chips, Ruffles.
- Industrial production of extruded products like Cheetos, etc.
- Industrial production of pellets like crujitos, Funyuns, etc.
- Statistics and experimental design.
- Process statistical control.

Industry Expertise

Senior Food Scientist (2007 – 2008)

American Italian Pasta Company, Excelsior Springs, MO, USA (2007 – 2008)

- Generated and implemented test methods to validate raw materials and finished products quality.
- Performed laboratory and pilot plant experiments.
- Responsible of launching ten new products with a new process at plant level.
- Developed in-house shelf-life studies, including physicochemical and sensory tests.
- Implemented formal sensory tests program.
- Coordinated cross functional teams including but not limited to Marketing, Operations, Quality Assurance, Sales, Accounting, Logistics, Packaging, and Research & Development.

Technology Innovation Manager (1999 – 2006)

Fritolay Mexico - Sabritas S. de R. L. de C. V. Mexico City, Mexico (1999 – 2006)

- Implemented scientific bases of nixtamalization process during tortilla elaboration.
- Created a new process to cook and soak corn instantaneously and reducing water consumption 94% without wastewater. Instant Masa US Patent #7,220,443.
- Implemented scientific methodology for functional foods development.
- Applied scientific protocol to validate different varieties of potato, corn, plantain and other raw materials correlating to process parameters.
- Coordinated cross functional teams including but not limited to Marketing, Operations, Quality Assurance, Sales, Accounting, Logistics, Packaging, and Research & Development.
- Generated and implemented test methods to validate raw materials and finished products quality.
- Performed laboratory and pilot plant experiments.
- Launched ten new products with a new process at plant level.
- Developed in-house shelf-life studies, including physicochemical and sensory tests.
- Implemented formal sensory tests program.

Flavorist, Florasynth S.A de C.V. Mexico City, México (1981-1984)

- Developed flavors for food industry of the following products: lime juice powder for Churrumais by Sabritas; vinegar powder for several products by Barcel; Ketchup sauce powder for Catsupapas by Barcel.

Quality Control Chief, Compañía Destiladora S.A. de C.V. Mexico City, México (1980-1981)

- Developed and implemented Quality Assurance Systems.

TEACHING EXPERIENCE

Research Professor, Food Science (1980 – 1999)

University of the State of Mexico, Toluca, Mexico (1995 – 1999)

- Instructed B.S. level students: Statistical Analysis, Food Chemistry, Sensory Science, Nutrition, and Food Technology.

National School of Biological Sciences. National Polytechnic Institute (IPN), Mexico City, Mexico (1980 – 1995)

- Instructed M.S. Level Food Science Students: Statistical Analysis, Sensory Science and Fermented Foods (1990-1995).
- Instructed B.S. Level Biochemistry Engineering Students: Technologies to Process Biological Products, Sensory Science, Food Technology, Food Analysis, and Food Engineering (1980-1990)

EDUCATION

National School of Biological Sciences, National Polytechnic Institute (IPN) Mexico City, Mexico

- **Ph.D., Food Science, Graduated with honors**
- **Masters, Food Science**
- **Bachelor in Science in Biochemistry Engineering**

International Academy of Six Sigma, Mexico City, Mexico

- **Project Leader of Design for Six Sigma**

AWARDS

- Scientific research award 1998. Universidad Autónoma del Estado de México, Toluca, México
- Scientific research award 1996. Universidad de La Serena, La Serena, Chile
- Highest score nationwide 1994, Master in Food Science Program. National Polytechnic Institute (IPN), México City, Mexico.

PATENTS

- Method for making instant masa US Patent #7,220,443. Instant masa US Patent # 7,939,121B2.
- Masa Instantánea. MX-285780 B. A process for the production of fresh masa, nixtamalized flour and derived products. The invention is a new process for production of corn masa (dough) to be used in the production of tortillas, fried or baked tortilla chips, tostadas, or corn chips. The new process produces masa directly from raw materials without the traditional cooking and steeping steps. The new process uses very little water and emits no wastewater.
- Process conditions to modify appearance and texture of snacks manufactures with nixtamalized corn flour. Mexican patent application # MX/a/2011/006328. This patent describes the process for improving appearance and texture of snacks manufactured with nixtamalized corn flour by decreasing the gelatinization level and increasing the amount of corn hull content of the masa (dough).

PUBLICATIONS

- Gomez-Castro, C.Z., Rodriguez, J.A., Cruz-Borbolla, J., Quintanar-Guzmán A., Sanchez-Ortega, I., Santos, E.M. 2019. A theoretical and experimental approach to evaluate zein-calcium interaction in nixtamalization process. Food Chemistry 297(2019)124995.
- Santos-Lopez, E.M, Quintanar-Guzmán, A., Solorza-Feria, J., Sanchez-Ortega, I., Rodriguez, J.A., and Wang, Y.J. 2014. Thermal and rheological properties of masa from nixtamalized corn subjected to a sequential protein extraction. Journal of Cereal Science 60:490-496.
- Quintanar-Guzmán, A., Jaramillo-Flores, M.E., Solorza-Feria, J., Méndez-Montevalvo, M.G., and Wang, Y.J. 2011. Rheological and thermal properties of masa as related to changes in corn protein during nixtamalization. Journal of Cereal Science 53:139-147.
- Quintanar-Guzmán, A., Jaramillo-Flores, M.E., Solorza-Feria, J., Méndez-Montevalvo, M.G., and Wang, Y.J. 2010. Effects of polymerization changes in maize proteins during nixtamalization on the thermal and viscoelastic properties of masa in model systems. Journal of Cereal Science 52:152-160.
- Quintanar-Guzmán, A., Jaramillo-Flores, M.E., Mora-Escobedo, R., Chel-Guerrero, L., and Solorza-Feria, J. 2009. Changes on the structure, consistency, physicochemical and viscoelastic properties of corn (*Zea mays* sp.) under different nixtamalization conditions. Carbohydrate polymers 78:908-916.