

Sergio I. Martínez Monteagudo, Ph.D.

Assistant Professor of Food Bioprocessing
 Department of Family and Consumer Science
 Department of Chemical & Materials Engineering
 New Mexico State University
 Website: <https://wordpress.nmsu.edu/sergiomm/>

Mobile: 605-690-9891
 Phone: 575-646-1185
 E-mail: Sergiommm@nmsu.edu
 ORCID ID: 0000-0002-9717-807X

Education

Ph.D. Bioresource and Food Engineering University of Alberta, Canada	2008-2013
M.Sc. Food Science & Technology Autonomous University of Chihuahua, Mexico	2003-2005
BSc. Chemical Engineering Autonomous University of Chihuahua, Mexico	1998-2003

Positions and Employment

New Mexico State University Department of Family and Consumer Science Department of Chemical & Materials Engineering <i>Position:</i> Assistant professor in Food Bioprocessing	2020-current
South Dakota State University Dairy and Food Science Department <i>Position:</i> Assistant professor in Dairy Manufacturing	2016-2020
The Ohio State University Department of Food Science and Technology <i>Position:</i> Postdoctoral Researcher	2013-2015
Dairy Research and Technology Center (Mexico) <i>Position:</i> Director	2006-2008
Teleperformance (Mexico) <i>Position:</i> Customer Service Representative	2005-2006
Castalia (Mexico) <i>Position:</i> Hygienic supervisor	2004-2005
RES international company (Mexico) <i>Position:</i> Quality inspector	2003
Agroindustrias San Antonio de Los Arenales (Mexico) <i>Position:</i> Undergraduate internship	2002-2003

Proposals funded

Photodynamic Decontamination: A promising approach to controlling Seedborne and Seedling Plant Pathogens and Ensuring Sustainable Chile Pepper Production in NM <i>Funding agency:</i> NM Chile Association <i>Role:</i> Co-Principal Investigator	2022-2024
---	-----------

Investigation the Use of High-Intensity Light Emitting Diodes for the Inactivation of Foodborne Pathogens in Paprika Powder <i>Funding agency:</i> NM Chile Association <i>Role:</i> Co-Principal Investigator	2022-2024
Innovation in Ice-Cream Manufacturing and Value Creation Opportunities <i>Funding agency:</i> Wells Enterprises <i>Role:</i> Principal Investigator	2022-2025
Acquisition of Phase Equilibria Apparatus to Enhance Research, Education, and Extension in Value-Added of Agriculture Commodities <i>Funding agency:</i> ACES NMSU <i>Role:</i> Principal Investigator	2022
Pioneering Guided-Ultrasound-Enhanced-Evaporation (GUEE) method for Reduce Energy Consumption During Evaporation of Dairy Ingredients <i>Funding agency:</i> Center of Excellence in Sustainability and Food Systems <i>Role:</i> Principal Investigator	2021-2022
Techno-economic Analysis of Extracting Rare Earth Elements from Coal Using Supercritical CO₂-H₂O-Chelator(s) Systems <i>Funding agency:</i> Sandia National Laboratories <i>Role:</i> Co-Principal Investigator	2020-2022
Value Creation from Ice-Cream Wastewater Streams through Pressure Chemistry <i>Funding agency:</i> RSCA Challenge Fund <i>Role:</i> Principal Investigator	2020-2021
One-pot Synthesis: Towards the Next Generation of Lactose Derivates <i>Funding agency:</i> Midwest Dairy Association <i>Role:</i> Principal Investigator	2020-2022
Synthesis of D-Tagatose from Lactose Streams <i>Funding agency:</i> Dairy Management Inc. <i>Role:</i> Principal Investigator	2020-2022
Effective Phospholipids Extraction from Dairy Byproducts using Switchable Solvents <i>Funding agency:</i> Dairy Management Inc. <i>Role:</i> Principal Investigator	2019-2021
Lactitol: Production, Properties, and Applications <i>Funding agency:</i> Midwest Dairy Association <i>Role:</i> Principal Investigator	2018-2019
Development of a Two-step Process for the Production of Food Ingredients from Lactose Permeate <i>Funding agency:</i> Dairy Management Inc. <i>Role:</i> Principal Investigator	2018-2020
Production of D-Tagatose using Pressurized Fluids <i>Funding agency:</i> Midwest Dairy Association	2018-2018

Role: Principal Investigator

Converting Ice-cream Wastewater into Value-Added Chemicals 2017-2018

Funding agency: SD State University Enhance Scholarly Excellence

Role: Principal Investigator

A Novel Spray-Dried Health Formulation Based on Whey Protein Hydrolysate and Probiotics Encapsulation 2017-2018

Funding agency: Midwest Dairy Association

Role: Co-Principal Investigator

Scale-up of Hydrodynamic Cavitation as an In-line Process Combined with Milk Pasteurization for Sporeformer Control 2017-2018

Funding agency: Dairy Management Inc.

Role: Co-Principal Investigator

Pressure Chemistry: Formulation and Manufacture of Reduced Sugar Dietary Supplements 2016-2017

Funding agency: Sanford Health

Role: Principal Investigator

Engineering Technologies for Novel Applications in Dairy Manufacturing 2016-2020

Funding agency: U.S. Department of Agriculture

Role: Principal Investigator

Proposals pending

CAREER: Unravelling the Chemical Kinetics of Rare Sugars 2023-2027

Funding agency: National Science Foundation (NSF)

Role: Principal Investigator

Guided-Ultrasound-Enhanced-Evaporation (GUEE): Reducing Energy Consumption During Falling Film Evaporation 2023-2026

Funding agency: United States Department of Agriculture (USDA)

Role: Principal Investigator

ERI: Kinetic modeling as a tool to modulate the formation of natural low-calorie sweeteners 2023-2025

Funding agency: National Science Foundation (NSF)

Role: Principal Investigator

Refrigerated Consumer Food Waste and Safety Risks: Quantification and Elimination 2023-2026

Funding agency: United States Department of Agriculture (USDA)

Role: Co-Principal Investigator

Control of Enteric Pathogen Contamination in Flour and Feed Mills Using a Photodynamic Inactivation Approach 2023-2027

Funding agency: United States Department of Agriculture (USDA)

Role: Co-Principal Investigator

Novel Metrics/Sensors As Empowering Tools To Assess Cold Chain Food Preservation Performance Aimed To Reduce Waste, Quality Losses & Safety Risk 2023-2026

Funding agency: United States Department of Agriculture (USDA)

Role: Co-Principal Investigator

Engineering Research Center for Food Resiliency through Engineered Supply Chains (FRESCH)

2022-2026

Funding agency: National Science Foundation
Role: Trust Coordinator

Teaching Experience

Instructor FSTE 2110 – Food Science I	08/2020-Present
Instructor CHME 102 – Material Balance	01/2022-Present
Instructor DS 790 – Graduate Seminar South Dakota State University, USA	01/2017-05/2020
Instructor DS 321/321 L – Dairy Products Processing I South Dakota State University, USA	02/2016-05/2020
Instructor DS 322/322 L – Dairy Products Processing II South Dakota State University, USA	02/2016-05/2020
Instructor DS 731 – Laboratory Techniques in Dairy Science South Dakota State University, USA	08/2016-05/2020
Instructor DS 400/500 – Dairy Chemistry and Analysis South Dakota State University, USA	08/2016-05/2020
Instructor Undergraduate Research South Dakota State University, USA	08/2016-05/2020
Instructor Thesis and Dissertation South Dakota State University, USA	08/2016-05/2020
Sessional lecturer Selected Topics in Biotechnology – <i>Hygienic Design</i> ITESM, Mexico	04/17/2016
Sessional lecturer Selected Topics in Biotechnology – <i>Engineering in Dairy Science</i> ITESM, Mexico	03/28/2016
Sessional lecturer Unit Operations in Food Processing - <i>Extrusion</i> The Ohio State University, USA	3/31/2015
Sessional lecturer Unit Operations in Food Processing - <i>Extrusion</i> The Ohio State University, USA	4/10/2014
Teaching assistant Unit operations for Food preservation, AFNS 554	01/2011-04/2013

University of Alberta, Canada

Sessional lecturer 4/08/2013

Unit operations for Food preservation – *High-pressure sterilization*

University of Alberta, Canada

Sessional lecturer 01/18/2013

Introduction to Food Engineering, NUF 283 - *Ultra-High-Temperature (UHT) pasteurization of milk*

University of Alberta, Canada

Sessional lecturer 04/09/2011

Unit operations for food preservation - *Ohmic heating*

University of Alberta, Canada

Sessional lecturer 04/05/2010

Unit operations for Food preservation - *Food irradiation*

University of Alberta, Canada

Marker 09/2009-12/2009

Introduction to Food Engineering, NUF 283

University of Alberta, Canada

Lecturer 01/2004-06/2004

Introduction to Physical Chemistry

Autonomous University of Chihuahua

Invention disclosure

Martinez-Monteagudo, S. I., Enteshari, M. (2020). Method for increasing creaminess of cultured cream. T-00503.

Martinez-Monteagudo, S. I., Rathnakumar, K., Osorio-Arias, J. C. (2019). Process for valorization of spent coffee ground. T-00493.

Industrial agreements

Studies on wastewater valorization 05/2021-present

Company: Wells Enterprises

Improving quality of food powders through polar dryer: a feasibility study. 05/2021-present

Company: Fluid Air®

Evaluation of hydrodynamic cavitation for Ice-cream Manufacture 09/2020-present

Company: Arysine

Scale-up of the manufacture of sweetening syrup from lactose 02/2020-01/2021

Company: Nutricepts

Hydrodynamic cavitation: Process opportunities for ice cream formulations 10/2018-02/2020

Company: Wells Enterprises

Invited Talks

- Martinez-Monteagudo, S. I.** (2022) Designing Quality for High-Protein Ice-Cream. Research Seminar Department of Chemical and Materials Engineering. February 4th, 2022, Las Cruces, NM. Approximately 40 people in the audience.
- Martinez-Monteagudo, S. I.** (2022). Progress in Hydrodynamic Cavitation for Food Processing Congreso Iberoamericano de Ingeniería de Alimentos – CIBIA XIII, March 15-18, 2022. Virtual presentation and approximately 160 people in the audience.
- Martinez-Monteagudo, S. I.** (2021) Research strategies to produce of sweeteners from lactose streams. Research Seminar Department of Chemical and Materials Engineering. October 10th, 2021, Las Cruces, NM. Approximately 50 people in the audience.
- Martinez-Monteagudo, S. I.** (2021). Hydrodynamic cavitation applications and its challenges in food technology. Recent trends in nonthermal food processing: Prospects and Challenges, Institute of National Importance; formerly Indian Institute of Food Processing Technology, October 7, 2021. Virtual presentation and approximately 120 people in the audience.
- Martinez-Monteagudo, S. I.** (2021). Ingeniería de Alimentos como la Diciplina de Futuro. 1er. Simposio de Ciencia, Tecnología e Ingeniería Alimentaria, Sociedad Estudiantil de Ingenieros en Alimentos, August 30, 2021. Virtual presentation and approximately 60 people in the audience.
- Martinez-Monteagudo, S. I.** (2021) Hydrodynamic cavitation: Process opportunities for ice-cream formulations. Frozen Dessert Center, Madison, Wisconsin October 25th, 2021. Approximately 90 people in the audience.
- Martinez-Monteagudo, S. I.** (2021). Uso de solventes inteligentes para la extracción de fosfolipidos. IV Simposio Iberoamericano de Ciencias Alimentarias y Culinarias, Universidad de Antioquia, August 30, 2021. Virtual presentation and approximately 70 people in the audience.
- Martinez-Monteagudo, S. I.** (2021) Engineering Aspects of Ice-cream Manufacturing. AIChE Rio Grande Chapter, February 10th, 2021, Las Cruces, NM. Approximately 30 people in the audience.
- Martinez-Monteagudo, S. I.** (2021). Extraction of dairy phospholipids using switchable solvents. AOCS – Annual Meeting & Expo. May 4, 2021. Approximately 80 people in the audience.
- Martinez-Monteagudo, S. I.** (2020). Develop a Two-Step Process to Produce Food Ingredients from Whey Permeate. Midwest Dairy Food Center Research Planning Meeting. November 18, virtual event. Approximately 50 people in the audience.
- Martinez-Monteagudo, S. I.** (2020). Chemical Methods to Discriminate Quality of Cacao. International conference of cacao. December 3, 2020, virtual event. Approximately 100 people in the audience.
- Martinez-Monteagudo, S. I.** (2020). Engineering Technologies for Novel Applications in Dairy Manufacturing. 1st International Food Research Workshop in the Chihuahua Desert Region of North America. November 6, 2020, virtual event. Approximately 90 people in the audience.
- Martinez-Monteagudo, S. I.** (2019). Technological Approaches for the Production of D-Tagatose from Whey Permeate. 21st Dairy Ingredient Symposium - Dairy Ingredients for Tomorrow's Marketplace. 26-27th February, 2019, Santa Barbara, California. Approximately 150 people in the audience.

Martinez-Monteagudo, S. I. (2019) Chemical Methods in Dairy Science. Research Seminar for the Chemistry Department South Dakota State University, Brookings, SD.

Martinez-Monteagudo, S. I. (2019). Development of a Two-Step Process for the Production of Sweetening Syrup from Lactose. Annual research planning meeting of the Midwest Dairy Research Center, May 13-15, 2019, Ames, Iowa. Approximately 100 people in the audience.

Martinez-Monteagudo, S. I. (2019). Engineering Technologies for Value-Added Applications. IFT Minnesota Section, April 25, 2019, Brookings, South Dakota. Approximately 50 people in the audience.

Martinez-Monteagudo, S. I. (2018) Production of Tagatose using pressurized fluids. Annual Meeting Midwest Dairy Foods Research Center, Minneapolis, MN.

Sim, J. Y., **Martinez-Monteagudo, S. I.**, & Anand, S. K. (2018) Hydrodynamic cavitation in dairy manufacturing: Characterization and microbial impact on skim milk concentrate, Gamma Sigma Delta, Honors Society of Agriculture, South Dakota State University, Brookings, SD.

Enteshari, M., & **Martinez-Monteagudo, S. I.** (2018) Subcritical hydrolysis of ice-cream wastewater: modeling and functional properties of hydrolysate, Gamma Sigma Delta, Honors Society of Agriculture, South Dakota State University, Brookings, SD.

Enteshari, M., & **Martinez-Monteagudo, S. I.** (2018) Converting Ice-cream Wastewater into Value-Added Chemicals. Gamma Sigma Delta, Honors Society of Agriculture, South Dakota State University, Brookings, SD.

Martinez-Monteagudo, S. I. (2018) Engineering Whey Protein-based Emulsifiers for the Production of Fat Powder. Annual meeting Midwest Dairy Foods Research Center, Minneapolis, MN.

Martinez-Monteagudo, S. I. (2017) Pressure Chemistry: Formulation and Manufacture of Reduced Sugar Dietary Supplements. Annual Meeting Sanford Profile Research Seed Grant, Brookings, SD.

Martinez-Monteagudo, S. I. (2008). Properties of Mennonite-style Cheese, Invited lecture at the international workshop of milk. June 14-16, 2008, Chihuahua, Mexico. Approximately 150 people in the audience.

Other Experience and Professional Service

Service to the College and University

- Faculty search committee. I served a committee member for a faculty search, May 2022 New Mexico State University.
- **Committee Member.** I served as a committee member for the 2022 ACES awards.
- **Diversity Advocate within Committee Search.** I served as Diversity Advocate in the committee member for Assistant Manager at the Dairy Farm within the Dairy and Food Science Department at South Dakota State University (February 2020 to July 2020).
- **Dean's Faculty Advisory Committee.** I have served in this capacity from January 2017 to May 2020. As a committee, we reflect and acknowledge on topics of interest for faculties. These efforts are aimed at adding ideas for the implementation of academic policies as well as advocacy on topics of faculty concern.

- **Undergraduate research Judge.** I served as a judge for the undergraduate research poster during the annual meeting of the Gamma Sigma Delta, Honors Society of Agriculture (2017-2020).

Service to the Department

- **Member of Curriculum committee.** I have served as Food Science representative for the curriculum assessment of the department. I have served in this capacity since August 2020.
- **Chair of IFT Accreditation Committee.** I am leading the IFT accreditation team at NMSU Food Science Program. I have served in this capacity since August 2020.
- **Advisor.** From October 2016 to May 2020, I served as advisor of the Dairy Club, where I oversee organized activities of the Dairy Club. This effort is oriented to appreciate student's extracurricular activities and fostering their professional growth. In 2018, I wrote a narrative in the Dairy digest, highlighting the outstanding activities of the club, including fundraiser and community involvement.
- **Co-Chair.** From August 2016 to May 2020, I have served as co-chair of the Dairy and Food Science Department Graduate Safety Committee. As a committee, I work in developing and updating safety protocols for new staff and students. Among my contributions is the development of working alone policy and good office practices. These efforts are oriented to create a safe culture within the Department, where the students can perform their research safely and consistently.
- **Participant.** Over the last few years (2016-2019), I have represented the Dairy Science Department during Central Plains Expo, Sioux Falls, SD. The expo provides an opportunity to engage with the local dairy industry.
- **Committee Member.** Over the last few years (2016-2019), I have served in the scholarships and awards committee. As a committee, we nominated students who qualified for a given scholarship and discussed that topic.
- **Chaperone.** I served as a chaperone for a group of students from DS 322-322L Dairy Products Processing II (March 2016). We visited the Valley Queen Cheese Factory (Millbank, SD). During the tour, I discussed with personnel of Valley Queen possible research collaborations on lactose utilization.

Service to Disciplinary and Professional Societies or Associations

- **Guest Editor.** I am serving as guest editor for the Special Issue "Bioactives from Agriculture and Horticulture Wastes: Extraction and Applications as a Step Towards Achieving Sustainable Development Goals" within Frontiers in Food Science and Technology. 2022-2023.
- **Guest Editor.** I am serving as guest editor for the Special Issue "Innovative Technologies for Utilization of Byproduct Streams" within Foods MDPI (Impact Factor 4.001).
- **Editorial Board Member (2019-current).** I am currently serving as an editorial board member of the Tecnociencia (Mexican Research Journal).
- **Chair.** I chaired a session of Dairy Processing within the 2020 Annual Meeting of the American Dairy Society Association (ADSA). The session was conducted virtually, which provided a new platform for communication.
- **Ad Hoc Reviewer** for the 2020 Annual Meeting of the American Dairy Society Association (ADSA). I reviewed 15 abstracts for poster and oral.

- **Ad Hoc Reviewer** for the 2020 Annual Meeting of the Mexican Academy of Chemical Engineering (AMIDIQ). I reviewed 10 abstracts for poster and oral.
- **Ad Hoc Reviewer** for a Book Proposal (2019). I reviewed a book proposal in relation to High pressure thermal processing support by Elsevier.
- **Chair.** In 2018, I chaired a session of Dairy Products within the 2018 Conference in Food Engineering, where I served as the point of contact for speakers and audience. As a chair, I was responsible for ensuring the session runs on time.
- **Member.** Over the last few years (2016-current), I have been an active member of the American Dairy Science Association (ADSA).
- **Member.** Since 2018, I have been an active member of the newly formed Society of Food Engineering (SoFE) whose main purpose is the advancement of food engineering.

Service to Funding Agencies

- **Ad Hoc Reviewer** for the Ph.D. scholarship for the 2019 and 2020 cycle of the National Science Foundation of Mexico.
- **Ad Hoc Reviewer** for one proposal in the field of food engineering submitted to the 2018 cycle of the National Science Foundation of Mexico.
- **Ad Hoc Reviewer** (2017) for one proposal submitted to the John R. Evans Leaders Fund for the Canada Foundation for Innovation in collaboration with the Fonds de recherche du Québec – Nature et technologies.
- **Grant Panelist** for the National Institute of Food and Agriculture. 2017. I served as a panelist for the National Institute of Food and Agriculture, where I ranked research proposals in terms of potential for advancing quality of education, cooperative linkages, and cost-effectiveness of the proposals.
- **Ad Hoc Reviewer** for one proposal for The Board of Regents of the University of Nebraska. 2017. Research proposal reviewed regarding scientific merit and relevance of the proposal as well as the potential for achieving the proposed objectives.
- **Ad Hoc Reviewer** for one proposal submitted to the Natural Sciences and Engineering Research Council of Canada. 2017. Research proposal reviewed regarding scientific quality and potential contribution to the training of highly qualified personnel.

Supervision of Graduate Student

Current Ph.D. Advisees

1. **Azeem Alvi**, Ph.D. Chemical Engineering. New Mexico State University. Thesis title: Valorization of wastewater from dairy plants. Anticipated date of completion: April 2025.

Graduated Ph.D. Advisees

1. **Maryam Enteshari**, Ph.D. Biological Science – Dairy Manufacturing. Thesis title: Studies on Value-added of dairy byproducts. Date of completion: August 14, 2020.
2. **Kaavya Rathnakumar**, Ph.D. Biological Science – Dairy Manufacturing (South Dakota State University/New Mexico State University). Thesis title: Extraction of Phospholipids from Dairy Byproducts using Switchable Solvents. Date of completion: April 17th, 2021.

Graduated M.Sc. Advisees

1. **Khaled Alsaleem**, M. Sc. Biological Science – Dairy Manufacturing. Thesis title: Role of antioxidants during milk fat oxidation. Date of completion: July 2019.

2. **Jae Young Sim**, M. Sc. Biological Science – Dairy Manufacturing. Thesis title: Engineering aspects of hydrodynamic cavitation. Date of completion: February 2020.
3. **Collette Kernyu Nyuydze**, M. Sc. Biological Science – Dairy Manufacturing. Thesis title: Emulsification of Infant Formula using Hydrodynamic Cavitation. Date of completion: April 2020.
4. **Hiran Renaweera**, M. Sc. Biological Science – Dairy Manufacturing (South Dakota State University/New Mexico State University). Thesis title: Impact of hydrodynamic cavitation on quality parameters of high-protein ice-cream. Anticipated date of completion: Fall 2021.

Postdoctoral researcher

1. **Shouyun Cheng**, Ph.D. April 2018-March 2020. Project involved: Production of D-Tagatose from lactose via catalytic isomerization.

Graduate Committee Memberships

1. **Venkateswarlu Sunkesula**, Ph.D. Biological Science – Dairy Manufacturing. Major Advisor Dr. Lloyd Metzger. (Spring 2016-Summer 2020).
2. **Shayanti Minj**, Ph.D. Biological Science – Dairy Manufacturing. Major Advisor Dr. Sanjeev Anand. (Fall 2018-TBD).
3. **Pratibha Chaudhary**, M. Sc. Biological Science – Dairy Manufacturing. Major Advisor Dr. Sanjeev Anand. (Fall 2017-Spring 2019).
4. **Mostafa Dehghanizadh**, Ph.D. Chemical Engineering. Major Advisor Dr. Catie Brewer (Fall 2018-Spring 2022).
5. **Hengameh Bayat**, Ph.D. Chemical Engineering. Major Advisor Dr. Catie Brewer (Fall 2018-Spring 2022).

Graduate School Representative

1. **Kaden Huntrods**, M.Sc. Sport and Recreation Administration. Intercollegiate Athletics. Major Advisor Dr. Bryan Romsa. Oral examination scheduled for April 2019.
2. **Sayan Sahu**, M.Sc. Computer Science. Electrical Engineering & Computer Science. Major Advisor Dr. Sung Shin & Dr. Myounggyu Won. Final oral examination on August 16th, 2018.
3. **Mukesh Mehata**, M.Sc. Agricultural & Biosystems Engineering. Major Advisor Dr. Erin Cortus. Final oral examination on February 2nd, 2018.
4. **Girma Ayana**, M.Sc. Plant Science. Agronomy, Horticulture, & Plant Science. Major Advisor Dr. Sunish Sehgal. Final oral examination on November 8th, 2017.
5. **Lauren Wiczorek**, M.Sc. Nursing. Department of Graduate Nursing. Major Advisor Dr. Cristina Lammers. Final oral examination on June 16th, 2017.

International Graduate Committee Memberships

1. **Azucena Flores-Mancha**, M. Sc. Food Science and Technology. Autonomous University of Chihuahua (Mexico). Major Advisor Dr. America Chavez. (Fall 2018-TBD).
2. **Rubi Chavez-Garay**, Ph.D. Science. Autonomous University of Chihuahua (Mexico). Major Advisor Dr. Nestor Gutierrez. (Fall 2016-TBD).
3. **Angelica Chourio**, M. Sc. Food Science and Technology. University of Alberta (Canada). Major Advisor Dr. Marleny Saldaña. Final oral examination on January 17th, 2019.

4. **Víctor Emmanuel Luján Torres**, M.Sc. Food Science and Technology. Autonomous University of Chihuahua (Mexico). Major Advisor Dr. Nestor Gutierrez. (Fall 2020-TBD).

Editorships of journals

Journal of Food Science, Journal of Dairy Science, Journal of Food Science and Technology, Food Research International, Foods, Antioxidants, LWT, Food Bioscience, The Journal of Chemical Physics, Frontiers in Microbiology, Innovative in Food Science and Technology, Bioelectrochemistry, Food Engineering Reviews, Processes, Food Control, Dairy Science & Technology, European Food Research and Technology, Food and Bioproducts Processing, Beverage, Journal of Food Process Engineering, Critical Reviews in Biotechnology, Mexican Journal of Chemical Engineering, Molecules.

Awards and Honors

Martin Steinman Endowed Professorship in Food Science and Technology College of Agricultural, Consumer, and Environmental Sciences, New Mexico State University	2022-present
National Researcher Level I CONACYT, Government of Mexico	2019-2021
National Researcher Level I CONACYT, Government of Mexico	2017-2019
AFNS travel award Department of Agricultural and Nutritional Science University of Alberta, Canada	09/2013
Winter differential tuition award Department of Agricultural and Nutritional Science University of Alberta, Canada	01/2013
Second best oral presentation 24th Canadian conference on fats and oils Edmonton, AB, Canada	09/27/2011
CONACYT Scholarship Government of Mexico	03/2010-08/2012
Graduate Research Assistantship Fund Department of Agricultural and Nutritional Science University of Alberta, Canada	01/2009
Graduate Research Assistantship Fund Department of Agricultural and Nutritional Science University of Alberta, Canada	09/2008
Partners in Excellence Teleperformance, Mexico	03/2006
Quality award Teleperformance, Mexico	02/2006
Runner-up National prize in Food Science and Technology Coca-Cola Company, Mexico	09/2005
CONACYT Scholarship	01/2004-08/2005

Government of Mexico

Winner of new Food products

10/21/2002

Autonomous University of Chihuahua, Mexico

Publications

1. Ranaweera, H., Krishnan, P., & **Martínez-Monteagudo, S. I.** (2022). Rheological behavior of ice-cream mixes: Impact of temperature and protein concentration. *Journal of Food Process Engineering*, 45(3), e13989.
2. Pandiselvam, R., Kaavya, R., **Martinez Monteagudo, S. I.**, Divya, V., Jain, S., Khanashyam, A. C., & Cozzolino, D. (2022). Contemporary Developments and Emerging Trends in the Application of Spectroscopy Techniques: A Particular Reference to Coconut (*Cocos nucifera L.*). *Molecules*, 27(10), 3250.
3. Minj, S., Anand, S., & **Martinez-Monteagudo, S.I.** (2021). Evaluating the effect of conjugation on the bioactivities of whey protein hydrolysates. *Journal of Food Science*, 86(12), 5107-5119.
4. Rathnakumar, K., Osorio-Arias, J. C., Krishnan, P., & **Martínez-Monteagudo, S. I.** (2021). Fractionation of spent coffee ground with tertiary amine extraction. *Separation and Purification Technology*, 119111.
5. Hammam, A., **Martinez-Monteagudo, S.I.**, & Alsaleem, K. (2021). Effect of ultrasound intensity on the functional properties of rennet-coagulated skim milk. *Journal of Food Processing Engineering*, 44(9), e13800.
6. Hammam, A., **Martinez-Monteagudo, S.I.**, & Metzger, L. (2021). Progress in Micellar Casein Concentrate: Production and Applications. *Comprehensive Reviews in Food Science and Food Safety*, 20:1–24.
7. Sim, Y.Y., Enteshari, M., & **Martinez-Monteagudo, S. I.** (2021). Hydrodynamic cavitation: Process opportunities for ice cream formulations. *Innovative Food Science & Emerging Technologies*. 70: 102675.
8. Rathnakumar, K., Ortega-Anaya, J., Jimenez-Flores, R., & **Martinez-Monteagudo, S. I.** (2021). Understanding the switchable solvent extraction of phospholipids from dairy byproducts. *Food and Bioproducts Processing*, 126:175-183.
9. Enteshari, M., & **Martinez-Monteagudo, S. I.** (2021). Kinetic Modeling of Amino Acids Production from Ice-cream Wastewater in Subcritical Conditions. *Food and Bioprocess Technology*, 14:717–725.
10. Rathnakumar, K., Ortega-Anaya, J., Jimenez-Flores, R., & **Martinez-Monteagudo, S. I.** (2021). Improvements in the Extraction of Milk Phospholipids using Ultrasound Prior to Tertiary Amine Extraction. *LWT – Food Science and Technology*, 141: 110864.
11. Sim, J. Y., Beckman, S. L., Anand, S., & **Martinez-Monteagudo, S. I.** (2021). Application of hydrodynamic cavitation to skim milk concentrate: Process characterization and microbial inactivation. *Journal of Food Engineering*, 293:110382.
12. Nyuydze, C., & **Martinez-Monteagudo, S. I.** (2021). Effect of soy lecithin concentration on the formation and stability of ultrasound emulsions. *International Dairy Technology Journal*. 74: 84-94.
13. Cheng, S., Wei, L., Muthukumarappan, K., & **Martinez-Monteagudo, S. I.** (2020). Kinetic analysis of non-isothermal oxidation of bioactive milk lipids. *Journal of Food Processing Engineering*. 43:e13519.

14. Osorio-Arias, J. C., Contreras-Calderon, J., **Martinez-Monteagudo, S. I.**, & Vega-Castro, O. (2020). Nutritional and functional properties of spent coffee ground-cheese whey powder. *Journal of Food Process Engineering*. e13524.
15. Osorio-Arias, J. C., Pérez-Martínez, A., Vega-Castro, O., & **Martinez-Monteagudo, S. I.** (2020). Rheological, texture, structural, and functional properties of Greek-style yogurt fortified with cheese whey-spent coffee ground powder. *LWT – Food Science & Technology*, 129:109523.
16. Aljutaily, T., Huarte, E., **Martinez-Monteagudo, S. I.**, Gonzalez-Hernandez, J. L., Rovai, M., & Sergeev, I. N. (2020). Effects of probiotic dairy products on the mouse gut microbiota and body weight. *Nutrition Research*, 82:25-33.
17. Enteshari, M., & **Martinez-Monteagudo, S. I.** (2020). One-pot synthesis of lactose derivatives from whey permeate. *Foods*. 9(6), 784.
18. Cheng, S., Metzger, L. E., & **Martinez-Monteagudo, S. I.** (2020). One-pot synthesis of sweetening syrup from lactose. *Scientific Reports*, 10(1).
19. Chávez Garay, D. R., Gutiérrez-Méndez, N., Orozco-Mena, R. E., Sanchez-Ramirez, B., Salmeron, I., Hernández-Ochoa, L. R., Chávez-Flores, D., & **Martinez-Monteagudo, S. I.** (2020). Modification of oil-in-water lecithin-based emulsions with different sizes by using a phospholipase A1. *CyTA – Journal of Food*, 18:1, 688-697.
20. Enteshari, M., & **Martinez-Monteagudo, S. I.** (2020). Hydrothermal conversion of ice-cream wastewater. *Journal of Food Processing Engineering*, 43:e13498.
21. Cheng, S., Hummel, M., Dahal, B., Gu, Z., Kharel, P., & **Martínez-Monteagudo, S. I.** (2020). A two-step process for the synthesis of sweetening syrup from aqueous lactose. *LWT – Food Science & Technology*, 117, 108659.
22. **Martinez-Monteagudo, S. I.**, Enteshari, M., & Metzger, L. E. (2019). Lactitol: Production, properties, and applications. *Trends in Food Science & Technology*. 83:180-191.
23. Cheng, S., Rathnakumar, K., & **Martinez-Monteagudo, S. I.** (2019). Extraction of Dairy Phospholipids Using Switchable Solvents: A Feasibility Study. *Foods*. 8(7):265-275.
24. Enteshari, M., & **Martinez-Monteagudo, S. I.** (2018) Subcritical hydrolysis of ice-cream wastewater: modeling and functional properties of hydrolysate, *Food and Bioproducts Processing*, 111: 104-113.
25. Cheng, S., & **Martinez-Monteagudo, S. I.** (2018). Hydrogenation of lactose for the production of lactitol. *Asia-Pacific Journal of Chemical Engineering*. 14(1):1-18.
26. Chourio, A. M., Salais-Fierro, F., Mehmood, Z., **Martinez-Monteagudo, S. I.**, & Saldaña, M. D. A. (2018) Inactivation of peroxidase and polyphenoloxidase in coconut water using pressure-assisted thermal processing, *Innovative Food Science & Emerging Technologies* 49: 41-50.
27. **Martinez-Monteagudo, S. I.** (2018) Analysis of thermoxidation kinetics of milk fat. *Revista Mexicana de Ingeniería Química* 17(2): 587-602.
28. Yan, B., **Martinez-Monteagudo, S. I.**, Cooperstone, J. L., Riedl, K. M., Schwartz, S. J., & Balasubramaniam, V. M. (2017) Impact of thermal and pressure-based technologies on carotenoid retention and selected quality parameters in tomato juice. *Food and Bioproducts Proces*, 10(5): 808-818.
29. **Martinez-Monteagudo, S. I.**, Yan, B., & Balasubramaniam, V. M. (2017) Engineering process characterization of high-pressure homogenization – from laboratory to industrial scale. *Food Engineering Reviews* 9(3): 143-169.

30. **Martinez-Monteagudo, S. I.**, Kamat, S., Patel, N., Konuklar, G., Rangavajla, N., & Balasubramaniam, V. M. (2017). Improvements in emulsion stability of dairy beverages treated by high-pressure homogenization: A pilot-scale feasibility study *Journal of Food Engineering* 193:42-52.
31. **Martinez-Monteagudo, S. I.**, & Saldaña, M. D. A. (2015). Combined effect of pressure-assisted thermal processing and antioxidants on the retention of conjugated linoleic acid in milk *Foods* 4 (2), 65-79.
32. **Martinez-Monteagudo, S. I.**, & Saldaña, M. D. A. (2015). Kinetic of lactulose formation in bovine milk treated with pressure assisted thermal sterilization. *Innovative Food Science & Emerging Technologies* 28, 22-30.
33. **Martinez-Monteagudo, S. I.**, Leal-Dávila, M., Saldaña, M. D. A., & Curtis, J. (2015). Oxidative stability of UHT milk rich in conjugated linoleic acid and *trans*-vaccenic acid. *International Dairy Journal* 43, 70-77.
34. Balasubramaniam, V. M., **Martinez-Monteagudo, S. I.**, & Gupta, R. (2015). Principles and applications of pressure-based technologies. *Annual review of food science and technology* 6, 435-462.
35. **Martinez-Monteagudo, S. I.**, & Saldaña MDA. (2015). Retention of bioactive lipids in heated milk: experimental and modeling. *Food and Bioproducts Processing*. 94: 290–296.
36. Balasubramaniam, V. M. & **Martinez-Monteagudo, S. I.** (2014). Getting past pasteurization: consider high-pressure processing of dairy foods and beverages. *Dairy Food Magazine*. October 2014.
37. **Martinez-Monteagudo, S. I.**, Saldaña, M. D. A., & Gaenzle, M. (2014). High-pressure and temperature effects on the inactivation of *Bacillus amyloliquefaciens*, alkaline phosphatase and storage stability of conjugated linoleic acid in milk. *Innovative Food Science & Emerging Technologies*. 26: 59–66.
38. **Martinez-Monteagudo, S. I.**, & Saldaña, M. D. A. (2014). Chemical reactions in food systems at high hydrostatic pressure. *Food Engineering Reviews*. 6(4): 105-127.
39. **Martinez-Monteagudo, S. I.**, Khan, M., Saldaña, M. D. A., & Temelli, F. (2014). Obtaining milk fat fraction enriched in conjugated linoleic acid and *trans*-vaccenic acid. *International Dairy Journal*. 36(1): 29-37.
40. **Martinez-Monteagudo, S. I.**, & Saldaña, M. D. A. (2014). Modeling the retention kinetic of conjugated linoleic acid (CLA) during high-pressure sterilization. *Food Research International*. 62: 169-176.
41. **Martinez-Monteagudo, S. I.**, & Salas-Fierro F (2014) Moisture Sorption Isotherms and Thermodynamic Properties of Mexican Mennonite-Style Cheese. *Journal of Food Science and Technology*. 51(10): 2393-2403.
42. **Martinez-Monteagudo, S. I.**, Saldaña, M. D. A., Torres, J. A., & Kennelly, J. J. (2012) Effect of pressure assisted thermal sterilization on conjugated linoleic acid (CLA) content in CLA-enriched milk. *Innovative Food Science and Emerging Technologies*. 16: 291-297.
43. **Martinez-Monteagudo, S. I.**, Saldaña, M. D. A., Kennelly, J. J. (2012) Kinetics of non-isothermal oxidation of anhydrous milk fat rich in conjugated linoleic acid using differential scanning calorimetry. *Journal of Thermal Analysis and calorimetry*, 107(3):973-981.
44. **Martinez-Monteagudo, S. I.**, Leal-Dávila, M., Saldaña, M. D. A., Torres, J. A., & Welti-Chanes, J. (2011) Nuevas Tecnologías para la industria de alimentos en México utilizando la alta presión hidrostática. Parte II. *Industria Alimentaria*, 33(1): 44-48.

45. **Martinez-Monteagudo, S. I.**, Leal-Dávila, M., Saldaña, M. D. A., Torres, J. A., Welti-Chanes, J. (2010) Nuevas Tecnologías para la industria de alimentos en México utilizando la alta presión hidrostática. Parte I. *Industria Alimentaria*, 32(6): 34-38.
46. Valdez-Fragoso, A., **Martinez-Monteagudo, S. I.**, Salais-Fierro, F., Welti-Chanes, J., Mujica-Paz, H. (2007) Vacuum pulse-assisted pickling whole jalapeño pepper optimization. *Journal of Food Engineering*, 79(4):1261-1268.
47. **Martinez-Monteagudo, S. I.**, Salais-Fierro, F., Perez-Carrillo, J. R., Valdez-Fragoso, A., Welti-Chanes, J., Mujica-Paz, H. (2007) Impregnation and infiltration kinetics of isotonic solution in whole jalapeño pepper using a vacuum pulse. *Journal of Food Science*, 73(3): E125-E131.

Book chapters

1. **Martinez-Monteagudo, S. I.** (2022). Analytical Methods | Electrochemical Analysis. *Encyclopedia of Dairy Sciences*. Academic Press, 363-369.
2. Luis Sabillon-Galeas, & **Martinez-Monteagudo, S. I.** (2022). Chapter 2: High-pressure processing for fruit and vegetable-based beverages, Editor(s): Selva Kumaran & Sajid Maqsood, *Non-Thermal Processing Technologies for the Fruit and Vegetable Industry*, CRC Press, In press.
3. **Martínez-Monteagudo, S. I.** (2022). Progress in Hydrodynamic Cavitation for Food Processing. In: O. Vega-Castro, *Congreso Iberoamericano de Ingeniería de Alimentos-CIBIA XIII*, In press.
4. Enteshari, M., Nyuydze, C., & **Martinez-Monteagudo, S. I.** (2021). Chapter 6: Application of Ultrasonic for Dairy Products Processing. Editor(s): Selva Kumaran & Sajid Maqsood, *Non-Thermal Processing Technologies for the Dairy Industry*, CRC Press, 81-92.
5. Rathnakumar, K., Hammam, A., Camilo Osorio, J.C. & **Martinez-Monteagudo, S. I.** (2021). Chapter 6: Application of Supercritical CO₂ Extraction Process for Dairy Product Processing. Editor(s): Selva Kumaran & Sajid Maqsood, *Non-Thermal Processing Technologies for the Dairy Industry*, CRC Press, 93-103.
6. Enteshari, M., & **Martinez-Monteagudo, S. I.** (2021). Chapter 10: Treatment of Dairy Industry Wastewater with Non-Thermal Technologies. Editor(s): Selva Kumaran & Sajid Maqsood, *Non-Thermal Processing Technologies for the Dairy Industry*, CRC Press, 127-141.
7. **Martinez-Monteagudo, S. I.**, Rathnakumar, K., Nyuydze, C., Enteshari, M., Osorio-Arias, J. C., & Ranaweera, H. (2020). Hundred Years of Lactitol – From Hydrogenation to Food Ingredient. In *Lactose*, DOI: 10.5772/intechopen.93365.
8. Osorio-Arias, J. C., Vega-Castro, O., & **Martinez-Monteagudo, S. I.** (2021). Fundamentals of High-Pressure Homogenization of Foods. Editor(s): Kai Knoerzer, Kasiviswanathan Muthukumarappan, *Innovative Food Processing Technologies*, Elsevier, 244-273.
9. Rathnakumar, K., & **Martinez-Monteagudo, S. I.** (2021). High-Pressure Processing: Fundamentals, Misconceptions, and Advances. Editor(s): Kai Knoerzer, Kasiviswanathan Muthukumarappan, *Innovative Food Processing Technologies*, Elsevier, 19-38.
10. **Martinez-Monteagudo, S. I.**, & Salais-Fierro, F. (2015). Milk naturally enriched with bioactive lipids: Opportunities and challenges, in: Prathamesh Gorawala and Srushti Mandhatri (Eds.), *Agricultural Research Updates*. Volume 8, Nova Publishers, New York.
11. **Martinez-Monteagudo, S. I.** & Balasubramaniam, V. M. (2015). Fundamentals and Applications of High-Pressure Processing Technology. In: Balasubramaniam V., Barbosa-

Cánovas G., Lelieveld H. (eds) High Pressure Processing of Food. Food Engineering Series. Springer, New York, NY. https://doi.org/10.1007/978-1-4939-3234-4_1.

12. Saldaña, M. D. A., & **Martinez-Monteagudo, S. I.** (2013) Oxidative Stability of Fats and Oils Measured by Differential Scanning Calorimetry for Food and Industrial Applications, in: Amal Ali Elkordy (Ed.), Applications of Calorimetry in a Wide Context – Differential Scanning Calorimetry, Isothermal Titration Calorimetry and Microcalorimetry, ISBN: 978-953-51-0947-1, InTech, DOI: 10.5772/54486.
13. **Martinez-Monteagudo, S. I.**, & Salais-Fierro, F. (2013). Engineering Properties of Mexican Chihuahua Cheese, in: Henrique Castelli and Luiz du Vale (Eds.), Handbook on cheese: production, chemistry and sensory properties, Nova Publishers, New York.