



School of Nutrition Sciences and Food Technology
Kermanshah University of Medical Sciences

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Personal Information

Marital Status: Married

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Tertiary Education

- Year 2004-2008 ❖ BSc. in Food Science and Technology (Food Quality Control); Shahid Beheshti University of Medical Sciences, Tehran, Iran.
- Year 2010-2013 ❖ MSc in Food Science and Technology (Food Quality Control); Shahid Beheshti University of Medical Sciences, Tehran, Iran.

MSc Thesis: Effects of probiotic strains, inoculated population, physiology of probiotic bacteria and fermentation final pH on decontamination of aflatoxin M₁ in Doogh
Supervisors: Dr. Amir Mohammad Mortazavian and Dr. Ramin Khaksar
- Year 2017- 2021 ❖ PhD. in Food Hygiene and Safety Science; Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Ph.D. Dissertation: Development and validation of TaqMan real-time PCR assays for quantification of chicken adulteration in raw and heat-treated hamburgers
Supervisors: Dr. Saeedeh Shojaee, and Dr. Nayebali Rezvani

Responsibilities

- Year 2014-2017 ❖ Instructor at the Department of Food Hygiene and Quality Control, School of Nutrition and Food Sciences, Shiraz University of Medical Sciences, Shiraz, Iran.
- Year 2009-2010 ❖ Food & Drug Expert, Food & Drug Administration, Vice-Chancellor's Office for Food and Drug at Lorestan University of Medical Sciences.

Key Areas of Research Expertise

- Food Toxicology
- Decontamination Methods of Food
- Probiotics and Prebiotics in Food Products
- Functional Foods
- Food Authenticity (Detection of Food Fraud and Genetically Modified Foods (GM foods))
- Molecular techniques relevant to food biology

Skills

- Language ❖ Persian, English
- Technical ❖ PCR conventional, Real time PCR, MIC, ELISA, HPLC, FTIR, Integrated Management System (IMS)
- Software ❖ Microsoft Office, SPSS, Rest Software, Design Expert, End Note

Articles

- **Sarlak Z**, Rezvani N*, Rouhi M**, Shojaee-Aliabadi S, Hosseini H. A normalized model based on Taqman real-time PCR assay for quantitative comparison of chicken adulteration in raw and heat-treated hamburgers. *Journal of food measurement and characterization*. 2023. <https://doi.org/10.1007/s11694-023-02005-4>
- Garavand F, Jafarzadeh SH, Cacciotti I, Vahedikia N, **Sarlak Z**, Tarhan O, Yousefi SH, Rouhi M, Castro-Munoz R, Jafari SM. Different strategies to reinforce the milk protein-based packaging composites. *Trends in Food Science & Technology*. 2022; 123:1–14.
- **Sarlak Z**, Shojaee-Aliabadi S*, Rezvani N**, Hosseini H, Rouhi M, Dastafkan Z. Development and validation of TaqMan real-time PCR assays for quantification of chicken adulteration in hamburgers. *Journal of Food Composition and Analysis*. 2022; 106: 104302.
- Raesi S, Mohammadi R, Khammar Z, Paimard G, Abdalbeigi S, **Sarlak Z**, Rouhi M*. Photocatalytic detoxification of aflatoxin B1 in an aqueous solution and soymilk using nano metal oxides under UV light: Kinetic and isotherm models. *LWT-Food Science and Technology*. 2022; 154:112638.
- **Sarlak Z**, Rouhi M, Mirza Alizadeh A, Sadeghi E, Hosseini H*, Mousavi-Khaneghah A**. Pb exposure from plant foods in Iran: A review. *International Journal of Environmental Analytical chemistry*. 2021.

- **Sarlak Z**, Hosseini H, Garavand F, Mohammadi R, Rouhi M*. The occurrence of lead in animal source foods in Iran in the 2010s decade: a systematic review. *Biological Trace Element Research*. 2021.
- **Sarlak Z**, Khosravi-Darani K*, Rouhi M**, Garavand F, Mohammadi R, Sobhiyeh MR. Bioremediation of organophosphorus pesticides in contaminated foodstuffs using probiotics. *Food Control*. 2021; 126:108006.
- Heydari M, Rostami O, Mohammadi R, Banavi P, Farhoodi M, **Sarlak Z**, Rouhi M*. Hydrodistillation ultrasound-assisted green extraction of essential oil from bitter orange peel wastes: Optimization for quantitative, phenolic, and antioxidant properties. *Journal of Food Processing and Preservation*. 2021.
- Paimard G, Mohammadi R, Bahrami R, Khosravi-Darani K, **Sarlak Z**, Rouhi M*. Detoxification of patulin from juice simulator and apple juice via cross-linked Se-chitosan/L-cysteine nanoparticles. *LWT-Food Science and Technology*. 2021; 143:111146.
- Zibaei R, Hasanvand S, Hashami Z, Roshandel Z, Rouhi M, Guimarães J, Mortazavian AM, **Sarlak Z**, Mohammadi R*. Applications of emerging botanical hydrocolloids for edible films: A review. *Carbohydrate Polymers*. 2021; 256:117554.
- Mohammadi R, Erfani N, Sohrabvandi S*, Mortazavi SA, Mortazavian AM, **Sarlak Z**, Alizadeh Moghadam M. Aflatoxin M1 reduction by probiotic strains in Iranian feta cheese. *Iranian Journal Chemistry and Chemical Engineering*. (2021).
- Hemmati V, Garavand F*, Goudarzi M, **Sarlak Z**, Cacciotti I, Tiwari BK. Cold atmospheric-pressure plasma treatment of turmeric powder: microbial load, essential oil profile, bioactivity, and microstructure analyses. *International Journal of Food Science & Technology*. 2020;56(5):2224–2232.
- Abedi AS, Hashempour F, Mirza Alizadeh A, Beikzadeh S, Hosseini H*, Bashiry M, Taslikh MR, Javanmardi F, Sheidaei Zh, **Sarlak Z**, Mofid V, Fakhri Y, Mousavi Khaneghah A**. The prevalence of *Brucella* spp. in dairy products in the Middle East region: A systematic review and meta-analysis. *Acta Tropica*. 2020; 202:105241.
- Ahmadi E, Mohammadi R, Hasanvand S, Rouhi M, Mortazavian AM*, **Sarlak Z**. Effects of fermentative factors on biochemical, microbiological and sensory characteristics of probiotic Iranian fermented milk (Doogh). *Current Nutrition & Food Science*. 2019;15(1):40-47.
- Mirza Alizadeh A, Jazaeri S, Shemshadi B*, Hashempour F, **Sarlak Z**, Pilevar Z, Hosseini H. A review on inactivation methods of *Toxoplasma gondii* in foods. *Pathogens and global health*. 2018;112(6):306-319.
- Mohammadi R, Yousefi M, **Sarlak Z**, Shah NP, Mortazavian AM*, Sadeghi E, Zabihzadeh Khajavi M. Influence of commercial culture composition and cow milk to soy milk ratio on the biochemical, microbiological, and sensory characteristics of a probiotic fermented composite drink. *Food Science and Biotechnology*. 2017;26(3):749-757.
- **Sarlak Z**, Rouhi M, Mohammadi R, Khaksar R, Mortazavian AM*, Sohrabvandi S**, Garavand F. Probiotic biological strategies to decontaminate aflatoxin M1 in a traditional Iranian fermented milk drink (Doogh). *Food Control*. 2017; 71:152-159.
- Rouhi M, Mohammadi R, Mortazavian AM*, **Sarlak Z**. Combined effects of replacement of sucrose with

D-tagatose and addition of different probiotic strains on quality characteristics of chocolate milk. Dairy Science & Technology. 2015;95(2):115-133.

- Fallah M, Rouhi M, Sadeghi E, **Sarlak Z**, Mohammadi R*. Effects of olibanum essential oil on physicochemical, structural, antioxidant and microbial characteristics of gelatin edible films. Iranian Journal of Nutrition Sciences & Food Technology. 2021;15(4):93-102. [In Persian]
- **Sarlak Z**, Garavand F, Mohammadi R, Hosseini M, Rouhi M*. Development of an optimal formulation for flavored Doogh-based soft drink using response surface methodology and evaluate the resulting powder. Journal of Food Technology and Nutrition. 2018;15(2):5-18. [In Persian]
- Mohammadi R, Zabihzadeh M, Hasanvand S, **Sarlak Z**, Mortazavian AM*, Shadnoosh M, Ayad Bahadori Monfared A. Effects of type and concentration of dry matter and final pH of fermentation on biochemical, microbial and sensory properties of probiotic dough. Koomesh. 2017;19(4):798-811. [In Persian]
- **Sarlak Z**, Mohammadi R, Abdolmaleki Kh, Mortazavian AM*, Shadnoosh M. Effects of addition of different probiotic strains on the biochemical and microbiological properties of Aloe vera drink. Koomesh. 2016;18(1):117-127. [In Persian]
- Mohammadi R, Zabihzadeh M, Delshadian Z, **Sarlak Z**, Mortazavian A.M*, Hosseini M. Study on the biochemical and microbiological characteristics of several probiotic strains in non-Alcoholic beer during storage period. Iranian Journal of Nutrition Sciences & Food Technology. 2016;11(3):53-62. [In Persian]
- Rouhi M, Taslimi A, **Sarlak Z**, Mohammadi R, Shadnoosh M, Mortazavian AM*, Sabouri S. Sucrose and D-tagatose fermentation profile by different probiotic strains and its effect on physical properties of chocolate milk. Koomesh. 2015;17(1):239-249. [In Persian]
- Rouhi M, Mohammadi R, **Sarlak Z**, Taslimi A, Zabihzadeh M, Mortazavian AM*. Study on the biochemical, microbiological and sensory characteristics of synbiotic chocolate milk. Iranian Journal of Nutrition Sciences & Food Technology. 2015; 10(2):47-58. [In Persian]
- **Sarlak Z**, Rouhi M, Mohammadi R, Mortazavian AM*, Khaksar R. Effects of probiotic strains and inoculated population, physiology of probiotic bacteria and fermentation final pH on free aflatoxin M1 binding in Doogh. Iranian Journal of Nutrition Sciences & Food Technology. 2013; 8(3):241-249. [In Persian]

Research Projects

- Year 2022 ❖ A normalized model based on Taqman real-time PCR assay for quantitative comparison of chicken adulteration in raw and heat-treated hamburgers/ Kermanshah University of Medical Sciences/ Supervisor.
- Year 2020 ❖ Authentication of red meat hamburger brands in Iran for chicken meat fraud using real-time PCR based on TaqMan assay/ Kermanshah University of Medical Sciences/ Assistant.
- Year 2019 ❖ Study of SYBR Green-based real time PCR modeling methods for estimation of chicken and chicken paste adulteration in red meat hamburger/ Shahid Beheshti University of Medical Sciences/ Supervisor.

- Year 2018
 - ❖ A systematic study on contamination levels of lead (Pb) in Iranian food sources/ Shahid Beheshti University of Medical Sciences/ Supervisor.
 - ❖ A systematic study on effect of probiotics on pesticide degradation in foodstuffs/ Shahid Beheshti University of Medical Sciences/ Supervisor.
 - ❖ Fate of antinutritional compounds in plant sources during fermentation/ Shahid Beheshti University of Medical Sciences/ Supervisor.

- Year 2017
 - ❖ Development of an optimal formulation for flavored Doogh-based soft drink using response surface methodology and evaluate the resulting powder/ Shiraz University of Medical Sciences/ Supervisor.

- Year 2014
 - ❖ Effects of probiotic strains and inoculated population, physiology of probiotic bacteria and fermentation final pH on free aflatoxin M1 binding in Doogh/ Shahid Beheshti University of Medical Sciences/ Assistant.

Chapter of Books

- Years 2020
 - ❖ Cacciotti I, Garavand F, Rostamabadi H, Khorshidian N, **Sarlak Z**, Jafari SM. Chapter 8- Nano/micro-encapsulated ingredients in chewing gum, pp. 345-386. In *Application of Nano/Microencapsulated Ingredients in Food Products*. Seid Mahdi Jafari (Ed.). Elsevier Academic Press, United States.

Conferences

- Year 2012
 - ❖ Rouhi M, Mohammadi R*, **Sarlak Z**, Shafiei SG, Ahmadi E. Effects of incubation temperatures on biochemical and microbiological characteristics in Doogh inoculated with Iranian probiotic lactobacillus species during fermentation and refrigerated storage. *13th iranian and the second international congress of microbiology, Ardebil University of Medical Sciences.*
 - ❖ Mohammadi R, Rouhi M*, **Sarlak Z**, Shafiei SG, Ahmadi E. A comparative study of viability of Iranian and imported bifidobacterium species during refrigerated storage in probiotic Doogh. *13th iranian and the second international congress of microbiology, Ardebil University of Medical Sciences.*
 - ❖ Mohammadi R, Rouhi M*, **Sarlak Z**, Mortazavian AM. Effects of partial or total replacement of cow's milk with soy milk and the type of commercial starter culture composition on biochemical and microbiological characteristics of probiotic soy-Doogh. *13th iranian and the second international congress of microbiology, Ardebil University of Medical Sciences.*
 - ❖ Mohammadi R, Roozitalab A, Rouhi M*, Mortazavian AM, **Sarlak Z**. Effects of the type of commercial starter culture composition and partial or total replacement of cow's milk with soy milk on biochemical and microbiological characteristics of probiotic fruity soy yogurt. *13th iranian and the second international congress of microbiology, Ardebil University of Medical Sciences.*

- Year 2015
 - ❖ **Sarlak Z**, Rouhi M, Monsef AM, Mohammadi R. Effect of *S. thermophilus* and *L. bulgaricus* on aflatoxin M₁ binding in milk, PBS and yogurt. *The 2nd national congress of milk safety from production to consumption and its role in human nutrition.*
- Year 2016
 - ❖ Rouhi M, **Sarlak Z***, Mortazavian AM, Mohammadi R, Khaksar R. The ability of *L. acidophilus* in reducing aflatoxin in Doogh. *3rd national conference on probiotics and functional foods.*
 - ❖ Rouhi M, Taslimi A, Mortazavian AM*, **Sarlak Z**, Mohammadi R, Yousefi M. Production of dietetic synbiotic cocoa milk. *3rd national conference on probiotics and functional foods.*
- Year 2018
 - ❖ **Sarlak Z**, Rouhi M*. Effect of live or heat-killed *L. acidophilus* on free aflatoxin M₁ in Doogh. *The 19th international & Iranian congress of microbiology.*
- Year 2021
 - ❖ Heidari M, Banavi P, Rostami O, Sarlak Z, Mohammadi R, Rouhi M*. Modeling and optimization of essential oil properties extracted from bitter orange peel. *2rd International Congress on Food Science & Technology & Agriculture and Food Security.*
- Year 2022
 - ❖ **Sarlak Z**, Raesi S, Rouhi M*. A review on DNA-based techniques to detect adulteration in meat products. *3rd International Congress on Food Science & Technology & Agriculture and Food Security.*
 - ❖ Raesi S, Mohammadi R, Paimard G, Abdalbeigi S, Sarlak Z, Rouhi M*, Photocatalytic effect of metal nano oxides in the detoxification of aflatoxin B₁ from aqueous solution. *3rd International Congress on Food Science & Technology & Agriculture and Food Security.*

Editorial Board and Reviewing Activities

- Reviewer
 - ❖ Food Control
 - ❖ Journal of Food Composition and Analysis
 - ❖ Journal of the Science of Food and Agriculture
 - ❖ Applied Food Biotechnology
 - ❖ Iranian Journal Nutrition Sciences and Food Technology

Awards & Grants

- Year 2017
 - ❖ 2rd Rank, entrance exam for the Ph.D. course in food hygiene and safety science.
 - ❖ 6th Rank, entrance exam for the Ph.D. course in food science and technology (food quality control).
- Year 2010
 - ❖ 3rd Rank, entrance exam for the master course in food science and technology (food quality control).