



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

First Name: Zahra

Surname: Sarlak

Academic Rank: Assistant Professor

Affiliation: Department of Food Science and Technology, School of Nutrition Sciences and Food Technology, Research Center for Environmental Determinants of Health (RCEDH), Health Institute, Kermanshah University of Medical Sciences, Kermanshah, Iran

Address: Kermanshah, Isar Square, Next to Farabi Hospital, Faculty of Nutrition Sciences and Food Technology

Email: Sarlak.zhr@gmail.com/ Zahra.sarlak@kums.ac.ir

Personal Information

Marital Status: Married

Place of Birth: Aligoudarz

Tel: +98-83-37102011

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

- 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 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.
 - ❖ Development of an optimal formulation for flavored Doogh-based soft

- Year 2017 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

- Year 2018
 - ❖ R, Yousefi M. Production of dietetic synbiotic cocoa milk. *3rd national conference on probiotics and functional foods.*
 - ❖ **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
 - ❖ 3rd 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).