

Saeed Mirzaee Ghazani

Department of Food Science
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Education

PhD (Food Science), University of Guelph **2015-2018**
Dissertation: Molecular Origins of Cocoa Butter Triclinic Polymorphism

Master of Science (Food Science), University of Guelph **2010-2012**
Dissertation: The Influence of Traditional and Minimal Refining on Minor Constituents of Canola Oil

Master of Science (Food Safety), Shahid Beheshti University **1996-2000**
Dissertation: Formulation and Production of High Stability, Zero-*trans* Frying Oil

Bachelor of Science (Food Science), Shahid Beheshti University **1992-1996**

Profile

- Twelve years of experience working with Professor Alejandro Marangoni in the Department of Food Science at the University of Guelph as a Research Associate on different projects related to the physicochemical, structural, biotechnological, and functional properties of lipids in foods
- Ten years of experience working in several vegetable oils refineries and fish oil production plants in their research and development labs, pilot plants, and production lines
- Four years of acting as the owner and CEO of Tiden Lipid Biotech Solutions Inc. company.
- Extensive research experience on the following subjects:
 - Feedstock engineering of agricultural waste materials to produce low-cost and sustainable carbon sources using physicochemical and biological methods
 - Upstream optimization of anaerobic fermentation to decompose cellulose and hemicellulose to make biogas
 - Fermentation for producing single-cell oils for food and pharmaceutical applications
 - Downstream process to extract lipidic materials and fully refine extracted lipid
 - Physicochemical and enzymatic modification of single-cell oils

- Fats and oils crystal structure and functionality, including plant oils, animal fats, and microbial oils
 - Converting food waste materials to sugars as a source of carbon to grow oleaginous yeasts
 - Extraction and application of beta-glucans from medicinal mushrooms in foods
- Extensive experience in upstream and downstream processes in the aerobic and anaerobic submerged fermentations plus using various analytical instruments to analyze the chemical composition, structure, and classification of fermented products and by-products including lipids, short-chain and volatile acids, alcohols, saccharides using GC, GC-MS, HPLC, NMR, powder X-ray diffractometer, DSC, rheometer, FTIR, Raman spectroscopy, spectrophotometry, scanning and transmission electron microscopy, confocal microscopy, nanoparticle analysis using Mastersizer and Zetasizer.

Professional Experience

Founder and CEO, Tiden Lipid Biotech Solutions Inc., Guelph, Ontario, Canada **2021-Now**

Research Associate, Department of Food Science, University of Guelph, ON, Canada **2013-Now**

I have collaborated on many research projects for several food biotechnology companies as follows.

- Producing cell-based fats as a sustainable cocoa butter alternative, Food Brewer, Horgen, Switzerland.
- Producing alternative proteins using fungi mycelium, Nosh Biofoods GMBH, Berlin, Germany.
- Beta-glucans of medicinal mushrooms and their applications, MycoDynamics, Toronto, Canada.
- Physicochemical and functional properties of algal oils and their applications in foods such as high stability frying oil, cocoa butter equivalent, and fish oil alternative, Solazyme Inc., South San Francisco, CA, USA.
- Bacterial cell-grown lipid extraction and identification, Kraft Heinz Co., Glenview, IL, USA.
- Oleosomes interfacial engineering to enhance their functionality in foods, Botaneco, Calgary, Canada.
- Anaerobic digestion of food and agricultural waste materials to biogas, Anaergia, Burlington, Canada.
- Yeast oil extraction and classification, Yali Bio, South San Francisco, USA.
- Downstream processing optimization to refine yeast oil as palm oil alternative, C16 Biosciences, New York, USA.
- Algal lipids classification and physicochemical properties, Corbion, San Francisco, USA.
- Downstream process optimization to extract and refine bacterial oil, Circe Bioscience, Boston, USA.

Graduate research assistant, Food Science Department, University of Guelph, Canada **2010-2012**

- Studying physicochemical properties of a virgin, high oleic sunflower oil, Huron Sun Foods, Barrie, ON, Canada

Food technologist, Savola Behshahr Industrial Company, Tehran, Iran **2006-2010**

(Savola Behshahr Company (SBC) is part of Savola Group, the Group's major holdings deal in edible oils and sugar markets in the Middle East, Central Asia, and North African countries.)

- Developing high stability frying oil, shortenings, margarines, and confectionery fats
- Acting as Business-to-Business (B2B) sales supervisor
- Troubleshooting, corrective, and preventive actions to resolve customer complaints

Food technologist, Margarin Company, Tehran, Iran **2001-2006**

(Margarin Company is an edible oil processing company that produces different kinds of shortenings and margarines with a capacity of 1000 tons per day)

- Pilot studying of zero-*trans* margarine, shortening, and frying oil production
- Physicochemical, microbiological, and sensory analyses of companies' products
- Pilot-scale work on hydrogenation, chemical and enzymatic interesterification, and deodorization reactors to develop new products
- Process controlling to define critical control points (CCPs) in the oil refinery plant
- Teaming up with processing and engineering teams to manage production lines

Process control supervisor, Farayand Abzar Roughan Engineering Company, Tehran, Iran **2000-2001**

(Designer, manufacturer, and installer of batch and continuous vegetable oil refining plants)

- Troubleshooting during the start-up of a new batch or continuous vegetable oil refinery plant
- Collaborating with the engineers and processing teams to identify problems and issues during the start-up of a new plant and control the quality of oil in each step of the refining process

Research assistant, Food Science Department, Shahid Beheshti University, Tehran, Iran **1996-2000**

- Studying the microbial contamination of margarines produced in Pars Ghoo Inc., Tehran, Iran
- Formulation and lab-scale production of stable frying oils
- Determination of heavy metal contents in fruit juices and beverages in the market, Tehran, Iran
- Surveying the consumer's acceptance of replacing butter with margarine

Teaching Experience

Guest lecturer, Food Chemistry I (Food*3030), Food Science Department, University of Guelph, ON, Canada. **2024**

Guest lecturer, Food Chemistry I (Food*3030) and Food Analysis (Food*4190), Food Science Department, University of Guelph, ON, Canada. **2022-2023**

Co-advisor, Research in Food Science (FOOD*4230 and FOOD*4200), Food Science Department, University of Guelph, ON, Canada. **2022-2023**

Guest lecturer, Advanced Food Biochemistry course, Food Science Department, University of Guelph, ON, Canada **2019-2020**

Guest lecturer, Advances in Food Science and Food Chemistry courses, Food Science Department, University of Guelph, ON, Canada **2017-2018**

Guest lecturer, Structure and Mechanical Properties of Fats Crystal Networks, Food Science Department, University of Guelph, ON, Canada **2016-2017**

Invited Short Course Lecturer: Analytical Techniques in Lipid Crystallization, 104th AOCS Annual Meeting and Expo, Montreal, Canada **2013**

Invited Short Course Lecturer: Analytical Techniques in Lipid Crystallization, 105th AOCS Annual Meeting and Expo, San Antonio, TX, USA **2014**

Lecturer and academic advisor: Food Chemistry, Edible Oil Refining, and Food Quality courses, University of Applied Science and Technology (UAST), Tehran, Iran **2007-2009**

Teaching assistant: Food Chemistry, Food Microbiology, and Food Biophysics, Food Science Department, Shahid Beheshti University, Tehran, Iran **1992-1996**

Awards

CLS Post-Doc Travel Support Program from the Canadian Light Source Inc.	\$1500	2024
The University of Guelph President's Award for Exemplary Staff Service	\$2000	2024
Guelph Food Technology Centre (GFTC-FSQA), Graduate Internship Award Program	\$5000	2016
Guelph Food Technology Centre (GFTC-FSQA), Graduate Internship Award Program	\$5000	2015

Professional Training

- Multifors fermenter training course by Benoit Touchette, Infors Canada.
- Ice Cream Science and Technology Short Course by Prof. Douglas Goff, University of Guelph.
- All Grain Brewing Short Course by Dr. Shane Walker, Dep. of Food Science, University of Guelph.
- The Science and History of Chocolate Course by Prof. Alejandro Marangoni, University of Guelph.
- X-ray analysis of lipids workshop
- B2B workshop
- Edible oil refining in practice
- ISO 9001:2000

- Quality control in food industries
- Margarine and Shortening formulation
- Water treatment for food industries
- Supervision principles for food managers
- Time management

Publications

h-index:19, i10-index:31, 1659 citations

Refereed Journal Articles

1. **Ghazani, S. M.** and Marangoni A. G. Tempering chocolate solely through the addition of 1,2-dimyristoyl-sn-glycero-3-phosphatidylethanolamine (DMPE). *European Journal of Lipid Science and Technology*. 2025. Submitted. Impact factor: 1.8
2. Stobbs, J. A., **Ghazani, S. M.**, Donnelly M., and Marangoni, A. G. Chocolate Tempering: A perspective. *Crystal Growth & Design*, 2025. Impact factor: 3.2
3. Stobbs, J. A., Pensini, E., **Ghazani, S. M.**, Leontowich, A. F., Quirk, A., Tu, K., ... & Marangoni, A. G. Phospholipid self-assembly in cocoa butter provides a crystallizing surface for seeding the form V polymorph in chocolate. *Crystal Growth & Design*, 2024, 24(7), 2685-2699. Impact factor: 3.2
4. Pensini E, Hsiung C, **Ghazani S. M.**, Marangoni A. A zwitterionic surfactant concentrates sulfolane in floating foams, to purify water. *Colloids and Surfaces C: Environmental Aspects*. 2024, 22,100051.
5. Pensini, E., Meszaros, P., Kashlan, N., Marangoni, A. G., Laredo, T., Gregori, S., **Ghazani, S. M.** & Chen, A. Ferroelectric hydrogels from amino acids and oleic acid. *iScience*, 2024, ISCI 110601. Impact factor: 5.8
6. Hanley, L., **Ghazani, S. M.**, & Marangoni, A. G. Giant multilamellar and large unilamellar lecithin vesicles for the encapsulation and oral delivery of cannabinoids. *Food Chemistry*, 2024, 433, 137291. Impact factor: 9.231
7. Pensini, E., Gregori, S., Marangoni, A. G., **Ghazani, S. M.**, Su, Z., Chen, A., & Kashlan, N. Ethanolamine piezoelectric hydrogels structured by oleic acid lamellae. *Journal of Molecular Liquids*, 2024, 124185. Impact factor: 6.165.
8. Soleimanian, Y., **Ghazani, S. M.**, & Marangoni, A. G. Ethylcellulose oleogels of oil glycerolysis products as functional adipose tissue mimetics. *Food Hydrocolloids*, 2024, 151, 109756. Impact factor: 10.7.
9. Soleimanian, Y., **Ghazani, S. M.**, and Marangoni, A. G. Rheological properties of ethylcellulose oleogels of oil glycerolysis products as functional adipose tissue mimetics. *Food Hydrocolloids*. 2024, 151, 109868. Impact factor: 10.7.
10. Soleimanian, Y., **Ghazani, S. M.**, and Marangoni, A. G. Enzymatic glycerolysis for the conversion of plant oils into animal fat mimetics. *Food Research International*, 2023, 174, 113651. Impact factor: 7.425.
11. Sultani, A., **Ghazani, S. M.**, Marangoni, A. G., Joye, I. J., Corradini, M. G., and Rogers, M. A. Mixed cyclic di-amino acid structured edible oils: a potential hardstock fat mimic. *Soft Matter*. 2023, 19 (36), 6871-6874. Impact factor: 4.05.

12. Vedant Patel, V., Marangoni, A. G., **Ghazani, S. M.**, Laredo, T., Stobbs, J. Pensini, E. Effect of Bacterial Surfactants on the Phase Behavior of Miscible Pollutants in Water. *Colloids and Surfaces C: Environmental Aspects*. 2023, 10013. Impact factor: 3.13.
13. Hanley, L., **Ghazani, S. M.**, & Marangoni A., G. Giant multilamellar and large unilamellar lecithin vesicles for the encapsulation and oral delivery of cannabinoids. *Food Chemistry*. 2023, Submitted. Impact factor: 9.231.
14. **Ghazani, S. M.**, & Marangoni, A. G. New Triclinic Polymorph of Tristearin. *Crystal Growth & Design*. 2023, 23(3), 1311-1317. Impact factor: 4.01.
15. **Ghazani, S. M.**, Pensini, E., Hargreaves, J., Mata, A., Guldiken, B., & Marangoni, A. G. Oleosome interfacial engineering to enhance their functionality in foods. *Current Research in Food Science*. 2023, 100465. Impact factor: 6.269.
16. Hood, C., **Ghazani, S. M.**, Marangoni, A. G., & Pensini, E. Flexible polymeric biomaterials from epoxidized soybean oil, epoxidized oleic acid, and citric acid as both a hardener and acid catalyst. *Journal of Applied Polymer Science*. 2022, 139(42), e53011. Impact factor: 3.125.
17. Marangoni, A. G., **Ghazani, S. M.**, Pensini E. An entropy-centric equilibrium cooperative theory for the melting behavior of non-ideal triglyceride mixtures. *Journal of the American Oil Chemist's Society*. Impact factor: 1.54.
18. **Ghazani, S. M.**, Madalena Maciel Guedes, A., Antoniassi, R., Chih Chiu, M. and Marangoni, A. G. Cocoa butter equivalent from Kpangnan butter and Pequi oil. *Journal of the American Oil Chemist's Society*. 2022, 99(9), 739-746. Impact factor: 1.541.
19. **Ghazani S. M.** and Marangoni A. G. Hardness, plasticity, and oil binding capacity of binary mixtures of natural waxes in olive oil. *Current Research in Food Science*. 2022, 5, 998-1008. Impact factor: 6.031.
20. Marangoni, A. G., **Ghazani, S. M.**, Gammage, S., Van Rosendaal, J., Music, J., Charlebois, S. Higher palmitic acid and dipalmitoyl oleate levels are correlated to increased firmness in commercial butter. *Food Chemistry*. 2022, 377, 131991. Impact factor: 6.306.
21. Charlebois, S., Marangoni A. G., **Ghazani S. M.**, Burgess, J., Proulx, A., Somogyi, S., Patelli, Y. and Music J. Data deficits and transparency: What led to Canada's 'ButterGate'. *Trends in Food Science and Technology*. 2022. 123, 334-342. Impact factor: 12.564.
22. Chen, J., **Ghazani, S. M.**, Stobbs, J. A. and Marangoni, A. G. Molecular Tempering of Cocoa Butter and Chocolate Using Minor Lipidic Components. *Nature Communications*. 2021, 12 (1), 1-9. Impact factor: 12.1. This project was conceived and directed by me.
23. **Ghazani, S. M.** and Marangoni, A. G. Microbial Lipids for Foods. *Trends in Food Science and Technology*. 2022, 119, 593-607. Impact factor: 12.564.
24. Earnden, L., Laredo T., Marangoni, A.G., **Ghazani, S. M.** and Pensini, E. Modulation of the Viscosity of Guar-Based Fracking Fluids Using Salts. *Energy Fuels*. 2021, 35, 16007. Impact factor: 3.421.
25. Marangoni A. G. and **Ghazani S. M.** Perspective: A commentary on elevated palmitic acid levels in Canadian butter and their relationship to butter hardness. *Journal of Dairy Science*, 2021, 104, 9380-9382. Impact factor: 4.354.
26. Pensini, E., Laredo, T., Earnden, L., Marangoni, A. G., **Ghazani, S. M.** A 'three in one' complexing agent enables copper desorption from polluted soil, its removal from groundwater and its detection. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*. 2021, 624, 126840. Impact factor: 3.99.
27. **Ghazani, S. M.** and Marangoni, A. G. Molecular Origins of Polymorphism in Cocoa Butter. *Annual Review of Food Science and Technology*. 2021, 12, 567-590. Impact factor: 8.96.

28. **Ghazani, S. M.**, and Marangoni, A. G. Fractionated coconut oil and MCT oil production: facts and fiction. *INFORM*, 2020. 31,9, 29-32.
29. **Ghazani, S. M.**, and Marangoni, A. G. Novel cocoa butter equivalent form microalgal butters. *Journal of American Oil Chemist's Society*, 2020. 97(10) 1095-1104. Impact factor: 1.72.
30. Safieh, P., Joseph Walls, D., Frostad, J., Marangoni, A. G., **Ghazani, S. M.**, and Pensini, E. Effect of toluene and hexane sorption on the rheology and interfacial properties of lecithin-based emulsion gels. *Langmuir*, 2020, 36, 1484. Impact factor: 3.68.
31. Marangoni, A., Gravelle, A. J. and **Ghazani S. M.**, Petroleum-free Food Grade Grease-Fact or Fiction? *New Food*, November 2019.
32. Lan, Y., Lv, M., Guo, Sh., Nasr, P., Ladizhansky, V., Vaz, R., Corradini, M. C., Hou, T., **Ghazani, S. M.**, Marangoni, A. G., and Rogers, M. Molecular Motifs Encoding Self-Assembly for Peptide Fibers into Molecular Gel. *Soft Matter*, 2019, 15, 9205-9214. Impact factor: 3.4
33. Ahmed, N., Kermanshahi, B., **Ghazani, S. M.**, Tait, K., Tcheng, M., Roma, A., Callender, S., Smith, R., Tam, W., Wettig, S., Rogers, M., Marangoni, A., Spagnuolo, P. Avocado-derived polyols for use as novel co-surfactants in low energy self-emulsifying microemulsions. *Scientific Reports*. Impact factor: 4.379
34. Ng, N., Chen, P. X., **Ghazani, S. M.**, Marangoni, A., Goff, D. H., Joye, I. J., Rogers, M. A. Lipid digestion of oil-in-water emulsions stabilized with low molecular weight surfactants. *Food and Function*. 2019, 10, 8195-8207. Impact factor: 3.241
35. **Ghazani, S. M.** and Marangoni A. G. The triclinic polymorphism of cocoa butter is dictated by its major molecular species, 1,3-palmitoyl-stearoyl-2-oleoyl glycerol (POS). *Crystal Growth and Design*. 2019, 19, 1, 90-97. Impact factor: 3.972
36. **Ghazani, S. M.** and Marangoni A. G. The ternary solid-state phase behavior of triclinic POP, POS and SOS and its relationship to cocoa butter and cocoa butter equivalents properties. *Crystal Growth and Design*. 2019, 19, 2, 704-713. Impact factor: 3.972
37. **Ghazani, S. M.** and Marangoni A. G. The stability and nature of the form IV polymorph of cocoa butter is dictated by 1,3-palmitoyl-stearoyl-2-oleoyl glycerol. *Crystal Growth and Design*. 2019, 19, 3, 1488-1493. Impact factor: 3.972
38. Co, E. D., **Ghazani, S. M.**, Pink, D. A. and Marangoni, A. G. Heterogeneous nucleation of 1,3-distearoyl-2-oleoylglycerol on tristearin surfaces. *ACS Omega*. 2019, 4, 4, 6273-6282. Impact factor: 2.584
39. Gaudino, N., **Ghazani, S. M.**, Clark, S., Marangoni, A. G. and Acevedo N. C. Development of Lecithin and Stearic Acid Based Oleogels and Oleogel Emulsions for Edible Semisolid Applications. *Food Research International*. 2019, 116, 79-89. Impact factor: 3.52
40. Safieh, P., Pensini, E., Marangoni, A., Lamont, K., **Ghazani, S. M.**, Callaghan-Patrachar, N., ... & Rodriguez, B. M. (2019). Natural emulsion gels and lecithin-based sorbents: A potential treatment method for organic spills on surface waters. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 574, 245-259. Impact factor: 5.518
41. **Ghazani, S. M.**, Rakitsky, W., Marangoni, A. G. and Zou, L. Algal butter, a novel cocoa butter equivalent: chemical composition, physical properties and functionality in chocolate, *Journal of American Oil Chemist's Society*. 2018, 95, 10, 1239-1251. Impact factor: 1.541
42. **Ghazani, S. M.** and Marangoni, A. G. Facile lipase-catalyzed synthesis of a chocolate fat. *Scientific Reports*. 2018, Impact factor: 4.379
43. **Ghazani, S. M.** and Marangoni A. G. New insight into the β polymorphism of 1,3-palmitoyl-stearoyl-2-oleoyl glycerol. *Crystal Growth and Design*. 2018, 18, 9, 4811-4814. Impact factor: 3.972

44. Teixeira, G. L., **Ghazani, S. M.**, Gorazza, M. L., Marangoni, A. G. and Ribani, R. H. Assessment of subcritical propane, supercritical CO₂ and Soxhlet extraction of oil from sapucaia (*Lecythis pisonis*) nuts. *The Journal of Supercritical Fluids*. 2018, 133, 122-132. Impact factor: 3.122
45. **Ghazani, S. M.**, Pink, D. A., Koutchekinia, M. Carney, J. R., Rakitsky, W. and Marangoni, A. G. Engineering the viscosity and melting behaviour of triacylglycerol bio-lubricants via interesterification. *RSC Advances*. 2015, 5, 37180-37187. Impact factor: 2.936
46. **Ghazani, S. M.**, Liatas, G. G. and Marangoni, A. G. Micronutrient content of cold-pressed, hot-pressed, solvent extracted and RBD canola oil: Implications for nutrition and quality. *European Journal of Lipid Science and Technology*. 2014, 116, 4, 380-387. Impact factor: 2.145
47. Sebastian, A., **Ghazani, S. M.** and Marangoni, A. G. Quality and safety of frying oils used in restaurants. *Food Research International*. 2014, 64, 420-423. Impact factor: 3.52
48. **Ghazani, S. M.**, Liatas, G. G. and Marangoni, A. G. Minor Constituents in Canola Oil Processed by Traditional and Minimal Refining Methods. *Journal of American Oil Chemists Society*. 2013, 90, 5, 743-756. Impact factor: 1.541
49. **Ghazani, S. M.** and Marangoni, A. G. Minor components in canola oil and effects of refining on these constituents: A review. *Journal of American Oil Chemists Society*. 2013, 90, 7, 923-932. Impact factor: 1.541
50. **Ghazani, S. M.** and Marangoni, A. G. Minimal refining of canola oil: effects on phytosterols and tocopherols. *INFORM*. 2011, 22, 9, 599-600.
51. **Ghazani, S. M.** Olive oil, quality control, and adulterations. *Standard*. 1999, 100, 28-32.
52. **Ghazani, S. M.** Study of Aflatoxin contamination in Iranian Pistachio. *Khornoosh*. 1997, 1, 42-45.

Book Chapters

1. **Ghazani, S. M.**, Soleimani Boroujeni, Y., Shaw N. and Marangoni, A. G. Scientific Issues and Challenges with Manufacturing and Refining Edible Oils and Fats, In: *Cellular Agriculture: Technology, Society, Sustainability and Science*, (Fraser, E. D. G., Kaplan, D. L., Newman L. and Yada R. Y. Eds.), Academic Press, 2023, 215-232.
2. Farr, W. E., **Ghazani, S. M.**, and Marangoni, A. G. Hydrogenation: Processing Technologies, In: *Bailey's Industrial Oil and Fat Products*, 7th Edition, (Shahidi, F. Ed.), Wiley Publishing, 2020, 297-313.
3. Alexandersen, K. A., **Ghazani, S. M.** and Marangoni, A. G. Margarine Processing Plants and Equipment, In: *Bailey's Industrial Oil and Fat Products*, 7th Edition, (Shahidi, F. Ed.), Wiley Publishing, 2020, 385-448.
4. Willis, W. M., **Ghazani S. M.**, and Marangoni, A. G. Enzymatic Interesterification, In: *Food Lipids: Chemistry, Nutrition, and Biotechnology*, 4th Edition, (Akoh, C. C. Ed.), CRC Press, 2017, 899-939.
5. Rousseau, D., **Ghazani, S. M.** and Marangoni, A. G. Chemical Interesterification of Food Lipids, Theory and Practice, In: *Food Lipids: Chemistry, Nutrition, and Biotechnology*, 4th Edition, (Akoh, C. C. Ed.), CRC press, 2017, 349-380.

6. **Ghazani, S. M.** and Marangoni, A. G. Healthy Fats and Oils, In: Encyclopedia of Food Grains, 2nd Edition, (Wrigley, C., Corke, H., Seetharaman, K., and Faubion, J. Eds.), Elsevier Science & Technology, 2016, 257-267.

Book

Ghazani, S. M. and Marangoni A. G. Minimal Refining of Canola Oil and Its Effects on Minor Constituents. LAP Lambert Academic Publishing, Saarbrücken, Germany. (2013)

Patents

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1. Mishra, K., Wemmer, J., Müller, M., Nicholson, R. A., **Ghazani, S. M.**, & Marangoni, A. G. (2024). Foodstuffs and methods for making the same. U.S. Patent Application No. 18/441,338.
 2. Marangoni, A., Kranis, N., & **Ghazani, S. M.** (2021). Wax oleogels as fat substitutes. US Patent Application No. US 2021/0161166 A1.

Conference Presentations and Session Chair

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1. Dimyristoylphosphatidylethanolamine (DMPE): A Potential Solution for Eliminating Chocolate Tempering. AOCS Annual Meeting & Expo. Portland, USA (2025).
 2. Towards Sustainable Cocoa Butter Alternatives: Leveraging Biotechnology Techniques. AOCS Annual Meeting & Expo. Portland, USA (2025).
 3. Microbial Lipids for Food, **Biotechnology session chair**, AOCS Annual Meeting & Expo. Portland, USA (2025).
 4. Yeast oil, a sustainable Food Solution. Stakeholder roundtable meeting on cell-based food production and precision fermentation. Canada (2024).
 5. Microbial Lipids for Food, **Biotechnology session chair**, AOCS Annual Meeting & Expo. Montreal, Canada (2024).
 6. Microbial Lipids for Food, **Biotechnology session chair**, AOCS Annual Meeting & Expo. Denver, Colorado, USA (2023).
 7. Novel Triclinic Structure of Tristearin. AOCS Annual Meeting & Expo. Denver, Colorado, USA (2023).
 8. Oleosome Interfacial Engineering to Enhance Functionality in Food, 16th International Hydrocolloids Conference, University of Guelph, Ontario, Canada (2022).
 9. Novel Triclinic Crystal Structure of Tristearin Molecule, JAOCS-WCOS, Japan Oil Chemists' Society, Virtual event (2022).
 10. Microbial Lipids for Food, **Hot Topic Session chair**, AOCS Annual Meeting & Expo, Atlanta, Georgia, USA (2022).
 11. Novel Cocoa Butter Equivalent from Microalgal Butters, AOCS Annual Meeting & Expo, Online, (2021)
 12. Online Symposium on Food Structure and Functionality, Structuring Foods for a Sustainable World. (2020).

13. New Insight into Molecular Origins of Cocoa Butter Polymorphism, AOCS Annual Meeting & Expo, St. Louis, Missouri, USA (2019).
14. Two New Triclinic Crystal Polymorphs of 1,3-palmitoyl-stearoyl-2-oleoyl glycerol (POS), JOCS Annual Meeting & Expo, Kobe, Japan (2018). (Invited speaker)
15. β_1 Stable 3-L Crystal Form of Palm Oil and Palm Oil Derivatives. AOCS Annual Meeting & Expo, Tokyo, Japan (2017).
16. Enzymatic Transesterification of POP-rich Fat and Algal Shea Butter to Synthesize Cocoa Butter Equivalents. AOCS Annual Meeting & Expo, Salt Lake City, Utah, USA (2016).
17. Algal Butter, a Novel Structuring Lipid, Its Similarities and Differences in Composition, and Observed Functionality When Compared to a Conventional Stearin Butter, AOCS Annual Meeting & Expo, Salt Lake City, Utah, USA (2016).
18. Chemical and Enzymatic Transesterification of High Oleic Algal Oil, Algal Shea Stearin with Palm Mid Fraction, and Fully Hydrogenated Cottonseed Oil to Synthesize Cocoa Butter Equivalents. AOCS Annual Meeting & Expo, Orlando, Florida, USA (2015).
19. Structure Implications for Physical Properties of Liquid and Solid Triacylglycerols. AOCS Annual Meeting & Expo, San Antonio, Texas, USA (2014).
20. Effect of Extraction Methods on Quality and Healthy Minor Components of Canola Oil. AOCS Annual Meeting and Expo, Montreal, Canada (2013). The Influence of Traditional and Minimal Refining on Minor Constituents of Canola Oil. AOCS Annual Meeting and Expo, Long Beach, California, USA (2012).
21. Minimal Refining of Canola Oil: Effects on Phytosterols and Tocopherols. 24th Canadian Conference on Fats and Oils, Edmonton, Alberta, Canada (2011)
22. Biotechnology applications in food technology. Students nutrition seminar, Tabriz, Iran (1996)
23. Olive Oil Quality Control and Adulteration. 3rd National Olive Oil Congress, Tehran, Iran (1996)

Professional Memberships

American Oil Chemist's Society (AOCS)	1995-Now
Advanced Food Materials Network (AFM)	2010-2017
Canadian Institute of Food Science and Technology (CIFST)	2010-Now
Institute of Food Technologists (IFT)	2016-2017
Professional Manufacturing Confectioners Association (PMCA)	2019-Now
Canadian Food Innovation Network	2021-Now
American Chemical Society (ACS)	2017-Now

Editorial Activities

Guest Editor

- Special issue on "Microbial Lipids for Food", Journal of the American Oil Chemist's Society.

Ad-Hoc Reviewer

Food Biophysics
International Journal of Biological Macromolecules
Food Structure
Journal of the American Oil Chemists' Society
LWT - Food Science and Technology
British Food Journal
Current Opinion in Food Science
Trends in Food Science & Technology
Food Chemistry
Food Research International
Journal of Food Science
Current Research in Food Science
Industrial Crops & Products
Journal of Molecular Liquids
Heliyon
Current Opinion in Food Science
Food Chemistry Advances
International Dairy Journal
Industrial Crops and Products
MethodsX

Extracurricular Activities

Biking
Running
Swimming
Playing chess and backgammon