

Solmaz Abedinzadeh

Assistant Professor of Food Science and Technology

Endocrinology and Metabolism Research Center

Isfahan University of Medical Sciences, Isfahan, Iran

Email: s.abedinzadeh92@gmail.com

LinkedIn: <https://www.linkedin.com/in/solmaz-abedinzadeh-5a7275a5>

Academic Profile

PhD in Food Science and Technology with specialization in food quality and safety control, edible oils and fats, lipid chemistry, and food standardization. Over 11 years of combined academic, regulatory, and industrial experience, with strong expertise in physicochemical and instrumental analysis of food products, quality assurance systems, and development of national and international food standards. Research activities focus on edible oil processing, refining technologies, functional lipid systems, and the nutritional and health effects of dietary fats. Active collaboration with national and international standard-setting bodies, including ISO and Codex Alimentarius.

Education

PhD in Food Science and Technology (Quality and Safety Control)

Tabriz University of Medical Sciences, Iran | 2018–2023

Dissertation: *Effect of Extraction and Refining Conditions on Physicochemical Properties and Minor Compounds of Black Cumin (Nigella sativa) Oil*

MSc in Food Science and Technology (Quality and Safety Control)

Tabriz University of Medical Sciences, Iran | 2013–2016

Thesis: *Development and Evaluation of a Functional Olive Oil–Based Salad Dressing Stabilized with Xanthan Gum*

BSc in Food Science and Technology (Quality and Safety Control)

Shahid Beheshti University of Medical Sciences, Tehran, Iran | 2009–2013

Academic Appointments

Assistant Professor

Endocrinology and Metabolism Research Center
Isfahan University of Medical Sciences | 2025–Present

- Conducting independent and collaborative research in food science with emphasis on edible oils, fats, and lipid nutrition
 - Supervising MSc and PhD students
 - Publishing peer-reviewed articles in international journals
 - Participating in interdisciplinary research in nutrition, metabolism, and public health
 - Contributing to policy-oriented research and food standardization activities
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Professional Experience

Advisor to Director General, Office for Supervision of Food Standards Implementation

National Standards Organization of Iran (INSO) | 2023–2025

- Auditing provincial standard offices and conformity assessment bodies (laboratories and inspection companies)
- Participation in ISO and Codex standard development processes
- Drafting, revision, and amendment of national standards related to edible oils and fats
- Preparation of analytical and policy reports based on national laboratory databases
- Design and execution of applied research projects supporting food standards

Teaching Assistant

Faculty of Nutrition and Food Sciences, Tabriz University of Medical Sciences | 2019–2023

- Assisted teaching of edible oil processing and beverage technology courses (online and in-person)

Quality Assurance Manager

Goldis Foreign Language Institute | 2021–2023

- Implementation of ISO 9001 and ISO 21001 quality management systems
- Institutional quality audits and documentation

Food Quality Control Laboratory Expert

Food and Drug Administration, Tabriz University of Medical Sciences | 2015–2017

- Quality and safety analysis of food products including edible oils, dairy products, and condiments
- National monitoring of pesticide and nitrate residues
- Advanced pesticide residue analysis using GC–MS

Quality Assurance Supervisor

Asia Shoor Food Industries (Taravat) | 2014–2015

- Implementation and internal auditing of ISO 22000, ISO 9001, HACCP, and GMP systems
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Teaching Experience

University of Applied Science and Technology (Shirin Asal Unit) | 2023–Present

- Food Quality Control Laboratory (6 practical credits)
 - Quality Assurance in Confectionery and Chocolate Industry (2 credits)
 - Quality Assurance in Meat, Canning, and Processed Foods (2 credits)

 - **Tabriz University of Medical Sciences | 2019–2023**
 - Edible Oil Processing (6 credits)
 - Confectionery and Beverage Industries (8 credits)

 - **Food and Drug Administration | 2015–2017**
 - Training courses on food standards and analytical methods for food industry professionals
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Research Projects

Completed Projects

1. Quality characteristics of cold-pressed grape seed oil
Standard Research Institute | 2023–2024
2. Proficiency testing scheme in edible oils (food and agriculture sector)
Standard Research Institute | 2023–2024
3. Quality characteristics of cold-pressed camelina oil
Standard Research Institute | 2023–2024
4. Effect of extraction (cold press and solvent) and refining processes on black cumin oil
PhD Dissertation | 2020–2023

5. Physicochemical, rheological, and sensory evaluation of functional olive oil–based salad dressing
MSc Thesis | 2013–2016

Ongoing Projects

1. Scoping review on canola oil consumption and neurodegenerative diseases
Endocrinology and Metabolism Research Center, Isfahan | 2025–Present
 2. Effect of raw material variety and fatty-acid-based emulsifiers on fatty acid and sterol profile of peanut butter
Standard Research Institute | 2025–Present
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Publications

Peer-Reviewed Journal Articles

1. Optimizing DD-SIMCA modeling for accurate classification of rice varieties via Raman spectroscopy. *Applied Food Research*. 2025.
2. Physicochemical characteristics and quality of oil extracted from privet fruits (*Ligustrum vulgare* L.). *Journal of Food Measurement and Characterization*. 2024.
3. Changes in the quality of oil extracted by hot-press from black cumin (*Nigella sativa*) seeds and by solvent from the obtained cake during refining. *Food Science & Nutrition*. 2024.
4. Analyzing the chemical composition and quality attributes of cocoa butter from different producers: A comparative study. *Innovative Food Technologies*. 2023.
5. Effect of refining on the quality of oils extracted by cold press from black cumin (*Nigella sativa* L.) seed and by solvent from its cake. *International Journal of Food Science & Technology*. 2023.
6. Considering sourdough from a biochemical, organoleptic, and nutritional perspective. *Journal of Food Composition and Analysis*. 2023.
7. Origin, dietary exposure, and toxicity of endocrine-disrupting food chemical contaminants: A comprehensive review. *Heliyon*. 2023.
8. A review of lipid and protein oxidation during digestion. *Current Nutrition & Food Science*. 2023.
9. Effect of refined edible oils on neurodegenerative disorders. *Advanced Pharmaceutical Bulletin*. 2022.
10. Application of nanotechnology in food industry and related health concern challenges. *International Journal of Advanced Biotechnology and Research*. 2016.
11. Some qualitative and rheological properties of virgin olive oil–apple vinegar salad dressing stabilized with xanthan gum. *Advanced Pharmaceutical Bulletin*. 2016.
12. Physicochemical and antioxidant properties of functional olive oil–based salad dressing stabilized with xanthan gum. *Iranian Journal of Food Science and Technology*. 2018.

Submitted Manuscripts

- Quality evaluation of commercial honey samples marketed in Iran. Submitted to *Heliyon*.

Manuscripts in Preparation

- Characterization of cold-pressed grape seed oil from various varieties: physicochemical properties, fatty acid profile, and bioactive compounds.
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Books (In Press)

1. *Applied Principles of Vegetable Oil Processing*
 2. *Novel Lipid Structures: Oleogels and Oleofoams and Their Applications in Food Industry*
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Conference Presentations

- Oleofoams in the food industry: production technology, applications, and health effects. 18th International Conference on Food Industry Sciences, Organic Farming and Food Security, Tbilisi, Georgia, 2024.
 - Innovative approaches in extraction of edible oils and their impact on product quality and nutritional properties. 4th International & 16th National Iranian Nutrition Congress, 2023.
 - Recovery of valuable bioactive compounds from agri-food byproducts by cold plasma technology. 3rd International & 26th National Iranian Congress of Food Science and Technology, 2019.
 - Determination of 105 pesticides in vegetables using QuEChERS-GC/MS. 14th Iranian Congress of Toxicology, 2017.
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Peer-Review Activities

Reviewer for international journals including:

- Food Chemistry
- Food Research International
- Journal of Food Composition and Analysis
- European Food Research and Technology
- Discover Food
- Food Analytical Methods

Research Interests

- Edible oils and fats: extraction, refining, and quality assessment, Lipid oxidation, stability, and minor bioactive compounds
- Functional lipid systems (oleogels, oleofoams, fat replacers)
- Food quality and safety control
- Instrumental and chemometric analysis of foods
- Food standardization and conformity assessment
- Nutritional and health effects of dietary lipids

Active contributor to national and international standardization in edible oils and fats, including ISO and Codex frameworks.

International Standard

- ISO TC 34/SC 11 – *Animal and Vegetable Fats and Oils – Classification and Description (ISO 6921)* — Expert member
- contributed to Iran's proposal for the revision of Codex Standard 210 (Named Vegetable Oils) under the Codex Committee on Fats and Oils (CCFO).
- Represented Iran at the CCFO session, actively presenting and defending the proposal in technical discussions with international delegates.

National Standards (Selected Contributions)

- INSO 10086 — Crude Sunflower Oil — Revision (Secretary)
- INSO 14348 — Crude Soybean Oil — Revision (Secretary)
- INSO 8920 — Grape Seed Oil — Revision (Secretary)
- INSO 8633 — Crude Peanut Oil — Revision (Secretary)
- INSO 15685 — Cold-Pressed Oils Sensory Evaluation — Amendment (Secretary)
- INSO 156-1 — Bakery & Shortening— Amendment (Secretary)
- INSO 1752 — Refined Sesame oil— Amendment (Secretary)
- INSO 10273 — Cocoa butter alternatives— Amendment (Secretary)
- INSO 4152 — Frying Oils — Amendment (Technical Committee Member)
- INSO 4935 — Refined Canola Oil — Amendment (Technical Committee Member)
- INSO 9131 — Household Edible Oils — Amendment (Technical Committee Member)
- INSO 10500 — Margarine — Amendment (Technical Committee Member)
- INSO 5690 — Peanut Butter — Revision (Technical Committee Member)
- INSO 5691 — Pistachio Butter — Revision (Technical Committee Member)

Standardization Activities

- Expert member, ISO TC34/SC11 – Animal and Vegetable Fats and Oils
 - Member, Codex Alimentarius Commission – Codex Committee on Fats and Oils (CCFO)
 - Secretary or technical committee member in the development, revision, and amendment of more than 20 Iranian national standards related to edible oils and fats
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Language Proficiency

- Azerbaijani: Native
 - Persian: Native
 - English: Professional working proficiency
 - Turkish (Istanbul): Professional proficiency
 - Spanish: Reading proficiency
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Technical Skills

Analytical Techniques: GC, GC–MS, HPLC, UV–Vis Spectrophotometry, IR, Rancimat, AAS

Statistics & Chemometrics: SPSS, MATLAB, Design-Expert (DOE), GraphPad Prism

Software: MS Word, Excel, PowerPoint, EndNote, Adobe Illustrator

Certifications and Professional Training

- MHLE (English Language Proficiency)
 - Teacher Training Course (English)
 - ISO 22000, FSSC 22000 (v6), HACCP, GMP (TÜV Nord)
 - Academic writing, research ethics, proposal writing, graphical abstract design
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Last updated: April 2026