

**Dr. Asma Sohail**  
**Associate Professor (BPS-20/Regular)**  
**Institute of Food and Nutritional Sciences**  
**PMAS-ARID AGRICULTURE UNIVERSITY, RAWALPINDI**  
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*Date of Birth: 02<sup>nd</sup> March, 1976*

#### **ACADEMIC QUALIFICATIONS:**

- **PhD** (Food Science) 2012  
University of Queensland, Brisbane, Australia
- **M.Sc. (Hons.)** (Food Technology) 2000, **Gold Medal**  
PMAS-Arid Agriculture University, Rawalpindi, Pakistan
- **B.Sc. (Hons.)** Agriculture (Food Technology) 1998,  
PMAS-Arid Agriculture University, Rawalpindi, Pakistan

#### **PROFESSIONAL EXPERIENCE**

- **28<sup>th</sup> July, 2019 – to date**  
Associate Professor, Department of Human Nutrition and Dietetics, Institute of Food and Nutritional Sciences, PMAS Arid Agriculture University Rawalpindi, Pakistan
- **27<sup>th</sup> June 2014 – 27<sup>th</sup> July, 2019**  
Assistant Professor, Department of Food Technology, PMAS Arid Agriculture University Rawalpindi, Pakistan
- **31<sup>st</sup> May, 2004 – 26<sup>th</sup> June, 2014**  
Lecturer (regular basis), Department of Food Technology, PMAS Arid Agriculture University Rawalpindi, Pakistan. Responsibilities include graduate/postgraduate teaching and research responsibilities in area of Food Technology
- **March 2003 – 30<sup>th</sup> May 2004**  
Lecturer (contract basis), Department of Food Technology, PMAS Arid Agriculture University Rawalpindi, Pakistan. Responsibilities include graduate/postgraduate teaching and research responsibilities in area of Food Technology.

#### **CASUAL EXPERIENCE:**

- Worked as a casual research professional staff in School of Agriculture and Food Sciences, University of Queensland, **May, 2011.**
- Worked as a casual tutor in the School of Agriculture and Food Sciences, University of Queensland, Brisbane Australia, **March, 2010.**
- Worked as a casual research general staff in the School of Agriculture and Food Sciences, University of Queensland, Brisbane, Australia **March, 2010.**
- Worked as a casual academic staff in the School of Agriculture and Food Sciences, University of Queensland, Brisbane, Australia, **July 2009 - Nov 2009.**
- Worked as a visiting instructor for the course “Food Processing and Preservation” offered by the Women’s division in the University of Arid Agriculture, Rwp, Pakistan. **March-April 1999.**

#### **ACADEMIC EXPERIENCE:**

- Member of the Academic Council of the University of Arid Agriculture, Rawalpindi
- Member of the Faculty Board of Studies of Faculty of Crop and Food Sciences, PMAS-AAUR, Rwp.
- Member of the Departmental Board of study Institute of Food and Nutritional Sciences, PMAS- AAUR, Rwp
- Member of the Examination Committee (Written and Oral) of PhD and M.Sc. Hons. Students of FT, HND and FSQM.
- External evaluator of Biological Sciences department, Quaid-e-Azam University, Community Health and Nutrition department, Allama Iqbal Open University.
- Departmental Focal Person (Department of Human Nutrition) PM National laptop Scheme, PMAS-Arid Agriculture University, Rawalpindi-Pakistan.
- Convener of Institutional Committee (IFNS) Ehsaas Scholarship program, PMAS-Arid Agriculture University, Rawalpindi-Pakistan
- Advisor, Punjab Public Service Commission, Lahore.
- Member of PSFST-Rawalpindi Chapter

## **RESEARCH INTERESTS**

- Bioencapsulation
- Nutraceuticals /Functional Foods
- Nutrition and Dietetics

## **PUBLICATIONS:**

1. Khan FF, Sohail A, Ghazanfar S, Ahmad A, Riaz A, Abbasi KS, Ibrahim MS, Uzair M, Arshad M. Recent Innovations in Non-dairy Prebiotics and Probiotics: Physiological Potential, Applications, and Characterization. Probiotics Antimicrob Proteins. 2022. doi: 10.1007/s12602-022-09983-9. Epub ahead of print. PMID: 36063353.
2. Taj, R., Masud, T., Sohail, A., Sammi, S., Naz, R., Sharma Khanal, B. K., & Nawaz, M. A. (2022). In vitro screening of EPS-producing *Streptococcus thermophilus* strains for their probiotic potential from Dahi. Food Science & Nutrition, 00, 1– 13. <https://doi.org/10.1002/fsn3.2843>
3. Farid, W., Masud, T., Sohail, A. 2021. Isolation, molecular characterization and preliminary screening for probiotic properties of Lactobacillus fermentum from indigenous dahi. E3S Web of Conferences 332, 06004. ICFTNSA 2021. <https://doi.org/10.1002/fsn3.2843>
4. Haneef, N., Sohail, A., Ahmed, A., Asad, M.J. 2021. Effects of edible aloe-pectin coating and hot-air drying on color, texture and microstructure of dried mango slices. The Journal of Animal and Plant Sciences, 32 (1).
5. Farid, W., Masud, T., Sohail, A., Ahmad, N., Naqvi, S. M. S., Khan, S., Ali, A., Khalifa, S. A., Hussain, A., Ali, S., Saghir, M., Siddeeg, A., & Manzoor, M. F. 2021. Gastrointestinal transit tolerance, cell surface hydrophobicity, and functional attributes of *Lactobacillus acidophilus* strains isolated from Indigenous Dahi. Food Science & Nutrition, 9:5092-5102. <https://doi.org/10.1002/fsn3.2468>.
6. Zaffar, A., M. Mazahir, A., Mehdi, **Sohail, A.**, M., Asim, W., Ali, S., Bashir and Muhammad. (2021). Quality assessment of apricot jam supplemented with Sea buckthorn pulp. Pure Applied Biology, 10(3):826-834. 10.19045/bspab.2021.100085.
7. Muhammad, S. I., A. Ahmad, **A. Sohail** and M. J. Asad. 2020. Nutritional and functional characterization of different oat (*Avena sativa* L.) cultivars. International Journal of Food Properties, 23(1):1373-1385.
8. Ali, A. Y., K.S. Abbasi, A. Ahmad, I. Hassan, **A. Sohail**, A. Qayyum and M. A. Akram.2020. Physico chemical and nutraceutical characterization of selected indigenous guava (*Psidium guajava* L.) cultivars. Food Science and Technology. Manuscript ID. CTA-2019-0353. DOI: <https://doi.org/10.1590/fst.35319> (I.F. 1.2).
9. Azher, M., **A. Sohail**, M. Mazahir, K. S. Abbasi, R. M. Amir, W. Ali and M. Asim.2020. Assessment of physico-chemical and phyto-chemical properties of six apple varieties cultivated in district Nagar and Hunza Gilgit Baltistan, Pakistan. Pure and Applied Biology, 9(2):1627-1636.
10. Shams, U.R., K.S. Abbasi, A. Qayyum, M.Jahangir, **A.Sohail**, M.J. Tareen and P.Sopade. 2019. Comparative analysis of citrus fruit for nutraceuticals properties.Food Science and Technology, Manuscript ID CTA-2019-0075 (I.F 1.2).
11. Abbasi, K., A. Qayyum, A. Mehmood, T., Mahmood, S.U. Khan, M. Liaquat, **A.Sohail**, A. Ahmad, (2019). Analysis of Selective Potato Varieties and their Functional Assessment. Food Science and Technology (IF-1.2). DDOI: <https://doi.org/10.1590/fst.26217>.
12. **Sohail, A.**, K.S. Abbasi, F. Najam, M. Arif. (2019). Encapsulation of pumpkin seed oil in alginate capsules. Pakistan Journal of Agricultural Research. 32(1):20-27.
13. **Sohail, A.**, Rafique, A., K.S. Abbasi, M.Arif. (2019). Comparative impact of drying methods on phytochemical and antimicrobial activities of date fruit powders. Pakistan Journal of Agricultural Research. 32(1):1-7.
14. Sair, A.T., T. Masud, **A. Sohail**, A. Rafique. (2017). Microbiological variation amongst fresh and minimally processed vegetables from retail establishments - a public health study in Pakistan. Food Research. 1 (6): 249 – 255.
15. Farid, W., T. Masud, **A. Sohail**, S. Naqvi, M. A. Qazalbash. (2016). Molecular characterization and 16S rRNA sequence analysis of probiotic *Lactobacillus acidophilus* isolated from indigenous Dahi (Yoghurt). International journal of Biosciences. 9(5), 19-27. (Impact factor :0.553)
16. Anjum, N., S. Maqsood, T. Masud, A. Ahmad, **A. Sohail**, A. Momin. (2014). *Lactobacillus acidophilus*: characterization of the species and application in food production. Critical Reviews in Food Science and Nutrition, 54(9), 1241-51. (Impact factor: 4.82).

17. Akram, A., **A. Sohail**, T. Masud, A. Latif, S. Tariq, S.J. Butt, I. Hassan. (2014). Physico-chemical and antimicrobial assessment of honey of *Apis dorsata* from different geographical regions of Pakistan. International Journal of Agricultural Science Research, 3(2), 025-030.
18. Adeel, R., **A. Sohail** and T. Masud. (2014). Characterization and antibacterial study of pumpkin seed oil (*Cucurbita pepo*). Life Sciences Leaflets, 49, 53-64.
19. Masood, M., T. Masud, S. Tariq and **A. Sohail**. (2014). The effect of casein hydrolysate formed by probiotic culture on cholesterol reduction. Life Sciences Leaflets, 49, 116-127.
20. Tariq, S., T. Masud, S. Tariq and **A. Sohail**. (2014). Black seed (*Nigella sativa*) possess bioactive compounds act as anti- *Helicobacter pylori* agent. World Journal of Pharmaceutical Sciences, 2 (2), 203-209 (Impact factor: 1.0408).
21. Mahmood, T., T. Masud and **A. Sohail**. (2014). Some probiotic and antibacterial properties of *Lactobacillus acidophilus* cultured from dahi a native milk product. International Journal of Food Science and Nutrition. DOI:10.3109/09637486.2014.880666 (Impact factor: 1.257).
22. **Sohail, A.**, M. S. Turner, A. Coombes, B. Bhandari. (2013).The viability of *Lactobacillus rhamnosus* GG and *Lactobacillus acidophilus* NCFM following double encapsulation in alginate and maltodextrin. Food and Bioprocess Technology 10(6), 2763-2769 (Impact factor: 3.126).
23. Javeria, S., T. Masud, S. Sammi, S. Tariq, **A. Sohail**, K. S. Abbasi and S. Ali. (2013). Comparative study for the extraction of  $\beta$ -carotene in different vegetables. Pakistan Journal of Nutrition. 12 (11): 983-989. (HEC-recognized).
24. **Sohail, A.**, M. S. Turner, E. K. Prabawati, A. Coombes, B. Bhandari. (2012).Evaluation of *Lactobacillus rhamnosus* GG and *Lactobacillus acidophilus* NCFM encapsulated using novel impinging aerosol method in fruit food products. International Journal of Food Microbiology, 157(2), 162-166. (Impact factor:3.327).
25. **Sohail, A.**, B. Bhandari, M.S. Turner, A. Coombes. (2012). Direct encapsulation of small molecule hydrophilic and hydrophobic actives in micron size alginate microspheres using a novel impinging aerosols method. Journal of Drug Delivery Science and Technology, 22, 139-143. (Impact factor: 1.088)
26. **Sohail, A.**, M. S. Turner, A. Coombes, T. Bostrom, B. Bhandari. (2011).Survivability of probiotics encapsulated in alginate gel microbeads using a novel impinging aerosols method. International Journal of Food Microbiology, 145(1), 162-168. (Impact factor: 3.327).
27. **Amin, A.**, M. Ali., Asif. A., Mahmood. U. H. (2001). Effect of coatings and polyethylene sheet on the shelf life of mangoes (*Mangifera indica* L.). Pak. J. Arid Agric. 4(1-2): 7-13.

#### **CONFERENCES:**

1. Asma Sohail, participated in International lecture by World class University-Universitas Sumatera Utera in Drying of Food emulsion system. 2020.
2. Asma Sohail, participated in International lecture by World class University-Universitas Sumatera Utera in Controlling the crystallization of sugar in raisins. 2020.
3. Asif, A. M.S. Ibrahim, K.S. Abbasi, A. Sohail, R.M. Amir, M.J. Asad and S. Bashir. (15-16 Oct, 2020). Geinsein cost effective natural remedy against various degenerative disorders. International virtual conference on plant based: for food security and pandemic management. MNS-University of Agriculture, Mulan, Pakistan.
4. Asif, A. M.S. Ibrahim, K.S. Abbasi, A. Sohail, R.M. Amir, M.J. Asad, S. Bashir and A.A. Yousaf. (15-16 Oct, 2020). Cyber physical system: innovative approach for safe food. International virtual conference on plant based: for food security and pandemic management. MNS-University of Agriculture, Mulan, Pakistan.
5. Rai, M.A., A. Ahmed, A. Ahmed, A. Sohail, M. Tauseef. (15-16, Oct 2020). Postharvest management of fruits and vegetable: A potential for reducing poverty, hidden hunger and malnutrition in Pakistan. MNS-University of Agriculture, Mulan, Pakistan.
6. Rai, M.A., A. Ahmed, A. Ahmed, A. Sohail, M. Tauseef, M. Abid, K.S. Abbasi. (15-16, Oct 2020). Application different processing techniques for preservation of onion : A mini review. MNS-University of Agriculture, Mulan, Pakistan.

7. Rai, M.A., A.Ahmed, A. Ahmed, A. Sohail, M. Tauseef, M.Abid, K.S.Abbasi. (15-16, Oct 2020). Problems of aflatoxin in food safety in Pakistan And its impact on human health. MNS-University of Agriculture, Mulan, Pakistan.
8. Ibrahim, M.S., A. Ahmad, **A. Sohail**, A. Asad, M.K. Ibrahim. (2018). Polyunsaturated fatty acid oxidation is producing concerns globally. World Congress on Nutrition and Dietetics. Journal of Clinical Nutrition and Dietetics. Vol 4. DOI: 10.4172/2472-1921-C1-003.
9. Ibrahim, M.S., A. Ahmad, **A. Sohail**, A. Asad, M.K. Ibrahim.2018.Globalization the major cause of food contamination need prompt action. 2018. Journal of Food and Nutritional Disorders. DOI: 10.4172/2324-9323-C3-015.

#### **PROJECTS:**

- Molecular Identification and Biopolymeric Encapsulation of Lactic Acid Bacteria. NSLP. PSF. 2022. Principal Investigator. (4.3 millions) on going)
- Application and Delivery System of Plant Protein Isolates, NRPU.2022. PI (1.97 millions) (on going)
- Development of nutraceutical products from indigenous source, NRPU, Co- PI (on going)

#### **HEC APPROVED SUPERVISOR**

##### **Research Accomplishments:**

##### **PhD Research Thesis: (Completed)**

- Effect of different coatings and drying methods on osmotically dehydrated fruits (Supervisor)

##### **PhD Research Thesis: (On going)**

- Assessment of Nutritional status and dietary management of type 11 Diabetic patients
- Molecular identification and biopolymeric encapsulation of lactic acid bacteria

##### **M.Sc. Hons. Research topics:**

##### **2018(Completed)**

- Effect of quality of different apple varieties during storage at various conditions in district Hunza ‘Gilgit Baltistan’
- Effect of omega-3-fatty acid in combination with anti depressants in the treatment of depression
- Isolation, biochemical and molecular characterization of Shiga toxin producing *E.coli* in dairy products
- Nutritional status assessment and dietary counseling in diabetic patients
- Nutritional status assessment and dietary counseling in HIV patients
- Encapsulation of fish oil and its application in food
- Ultrasonic extraction of lycopene and polyphenols and their integrated use in functional food
- Ultrasonic extraction of carotenoids and its use in functional food
- Nano emulsion delivery system of fish oil
- Physico chemical and functional properties of musk melon (*Cucumis melo* L) seed oil
- Physico chemical properties of different apple varieties in district Nagar and Hunza, 4 Gilgit Baltistan Preparation and preservation of value added low calorie stevia drink

##### **2017 (Completed)**

- Antibacterial activity of medicinal dietary herb extracts
- Chemical composition and anti microbial activity of citrus peel oil
- Effect of functional foods on glycemic control and lipid profile on patients with type 2 diabetes mellitus
- Determination of water contaminants from different sources in hospitals of Rawalpindi
- Effect of aloe vera fortified yoghurt from camel milk on cholesterol assimilation

##### **2016 (Completed)**

- Assessment of aloe vera yoghurt on cholesterol assimilation
- Prebiotic potential of banana (*Musa balbisiana*) leaves in the survival of encapsulated probiotics in fruit juices
- Prebiotic potential of xylo oligosaccharide in the survival of encapsulated probiotics in fruit chunks
- Effect of iron fortified cookies with pumpkin seed kernels (*Cucurbita pepo*) in treating anaemic

university female students

**2015 (Completed)**

- Influence of antioxidants on stability and quality of fish meat
- Effect of pretreatment on storage stability of osmo-dried mangoes
- Symbiotic effect of probiotic and prebiotic on apple juice
- Formulation and comparison of natural vinegar with synthetic vinegar

**2014 (Completed)**

- Comparative study of functional properties of pumpkin fruit, seed and leaf
- Phytochemical and antioxidant activity of *Carica papaya* leaf extracts
- Physic-chemical and microbiological study of drinking water quality from different sources of Rwp

**2013 (Completed)**

- Effect of drying on the phytochemical and antimicrobial activities of date fruit powder
- Encapsulation of pumpkin seed oil in alginate capsules

**2012 (Completed)**

- Comparative study of honey collected from different sources
- Role of pumpkin seed oil as a functional food

**PROFESSIONAL EXPOSURE/ TRAININGS/ WORKSHOPS**

1. Control of biofilm and food industry. 2021. Speaker from IFNS in webinar arranged by DAS, AAUR.
2. Participated in Organized “World Food Day: Grow, Nourish, Sustain, Together Our Actions are Our Future”, IFNS, PMAS-AAUR. 16<sup>th</sup> Oct, 2020.
3. Participated in webinar “Controlling the crystallization of sugar in raisins: by Universitas Sumatera Utara, Indonesia. 11<sup>th</sup> Dec, 2020.
4. Participated in webinar “Drying of Food Emulsion System: by Universitas Sumatera Utara, Indonesia. 8<sup>th</sup> Dec, 2020.
5. Participated in the webinar on Micronutrients fortification of Food: Application and Impact October 19, 2020.
6. Participated in Seminar on Global trends for food professionals, October 8, 2020.
7. Participated in World Food Day Seminar “Healthy Diet for A Zero Hunger world by 2030 is possible”. IFNS-PMAS-AAUR. 16<sup>th</sup> Oct 2019.
8. Participated in “Ist Pakistan Food-Nutrition International Summit”. NAFS and IFNS-PMAS-AAUR. 10-11 July, 2019.
9. E-Learning course on Global food safety trends: Application of Advanced Technologies. Organized by Asian Productivity Organization and National productivity Organization. **17<sup>th</sup> Dec to 20<sup>th</sup> Dec, 2018**
10. Halal Auditor course by IFANCA, Pakistan in collaboration with IFNS, PMAS-AAUR on **12-14 Dec, 2018**.
11. World Food Day- zero hunger at PMAS-AAUR on **October 16, 2018**.
12. One day workshop “Concept of Halal and Tayyab”, Organized by IFNS-PMAS-AAUR on **15<sup>th</sup> May, 2018**.
13. World Food Day Seminar at PMAS-AAUR on **October 16, 2017**.
14. Attended one day seminar on Food Safety: Our National Responsibility at Institute of Food and Nutritional Sciences, PMAS-AAUR on **January 24, 2017**
15. International training on the development of value added products. Jointly organized by Department of Food Technology PMAS-Arid Agriculture University, Rawalpindi and Korean International Cooperation Agency (KOICA) on **10<sup>th</sup> Mar. 2016**.
16. Workshop on risk management of food borne pathogens, Asian productivity Organization, **20-24 Jan, 2014**.
17. E-Learning course on export promotion and market access for agriculture and food products from Asia, Asian productivity organization, **17-19 Sept, 2013**.
18. **Paper presentation** in the Australian Food Science Summer School 2011, Australian Institute of Food Science and Technology [**9<sup>th</sup> Feb, 2011**].
19. Participated in the **poster competition** of 42nd Annual AIFST Convention held at South Bank, Brisbane, Qld, Australia [**2009**].
20. Participated in the **Research Commercialisation Workshop** conducted by Uni Quest at Sunshine coast, Brisbane, Australia [**17-18 April, 2008**].
21. Trainer in two-weeks training course on Home Gardening and Food Processing held at NARC, Islamabad, Pakistan [**8-21 May, 2006**].
22. Participated in the HEC sponsored “**International Training Workshop on Biomolecular Separation Techniques**” held at Department of Biochemistry, University of Arid Agriculture, Rawalpindi [**July 10-15, 2006**]
23. Participated in the “**International Conference on Value Addition in Horticultural**

**Products”**

held at University of Arid Agriculture Rawalpindi.[26 – 28 June, 2005].

- 24. Participated in the “International Workshop on Sanitary and Phytosanitary Measures in the Wake of Trade Liberalization: Challenges to Agriculture in Developing Countries” held at University of Arid Agriculture, Rawalpindi.**

**TEACHING INTERESTS**

- Recent Advances in Food Science and Technology
- Food Microbiology
- Nutrition and Dietetics
- Food Processing and preservation
- Project planning, execution and scientific writing
- Food quality management
- Infant and Young Child Feeding

**PROJECTS EVALUATED AS A REVIEWER**

- ALP project
- PMAS-AAUR-project

**AWARDS**

- 2007 HEC foreign scholarship
- 2000 M.Sc. Hons. Food Technology GOLD MEDAL
- 2001-01 OPF Certificate of Merit Award
- 1998-99 OPF Certificate of Merit Award

**REFERENCES:**

On demand