



Sameh Sharafeldin

Nationality: Egyptian **Date of birth:** 17/12/1988 **Place of birth:** Elbeheira, Egypt

Gender: Male **Phone number:** (+86) 18515493852

Phone number: (+20) 01090419296

Email address: samehgamil@agr.dmu.edu.eg

WeChat: sameh_13_11

Whatsapp Messenger: +2001090419296

Work: China Agricultural University, Beijing (China)

Home: Algomhoria Street, 22511 Elbeheira (Egypt)

ABOUT ME

Food scientist and postdoctoral researcher at the Beijing Academy of Agriculture and Forestry Sciences, with a PhD in Food Science and Nutritional Engineering from China Agricultural University. My research focuses on food chemistry, protein chemistry, and advanced food analysis, particularly molecular structure–function relationships, processing-induced transformations of food components, ingredient functionality, and food quality. My analytical experience includes LC–MS/MS proteomics, chromatography, spectroscopy, thermal analysis, rheology, and colloidal characterization. Supported by a growing publication record in leading food science journals and university teaching experience, I am developing an independent research program integrating advanced analytical approaches with food chemistry to improve food functionality, processing stability, quality, and nutritional performance.

EDUCATION AND TRAINING

Doctor of Philosophy (PhD), Food Science and Nutritional Engineering

China Agricultural University [15/06/2026]

City: Beijing | Country: China

Master of Philosophy (MPhil), Food and Dairy Science and Technology

Damanhour University [31/07/2019]

City: Damanhour | Country: Egypt

Bachelor of Science (BSc), Food and Dairy Science and Technology

Damanhour University [01/06/2011]

City: Damanhour | Country: Egypt

PUBLICATIONS

Mechanistic Basis of Bx7-Driven Freeze-Thaw Tolerance in Gluten: Integrated Spectroscopy, Colloidal Analyses, and In Silico Molecular Dynamics

Sharafeldin S., Abdelwaly A., ..., Akbar T. and Shen Q., 2026. Mechanistic Basis of Bx7-Driven Freeze-Thaw Tolerance in Gluten: Integrated Spectroscopy, Colloidal Analyses, and In Silico Molecular Dynamics. Food Hydrocolloids, p. 112703.

Bx7 and By8 Glutenin Subunits Dictate Freeze-Thaw Stability in Chinese Steam Bun Dough: Molecular Basis Across Wheat Cultivars

Sharafeldin Sameh, Toheed Akbar, ... , et al. "Bx7 and By8 Glutenin Subunits Dictate Freeze-Thaw Stability in Chinese Steam Bun Dough: Molecular Basis Across Wheat Cultivars." Food Hydrocolloids, 2025: 112003.

Gluten Content, Composition, and Structural Characteristics Dominate Chinese Steam Bun Quality: Insights from Varied Wheat Varieties

Sharafeldin S, Akbar T, ... , Qun S. Gluten Content, Composition, and Structural Characteristics Dominate Chinese Steam Bun Quality: Insights from Varied Wheat Varieties. *Colloids and Surfaces B: Biointerfaces*. 2026 Apr 29:115752.

The Cryoprotective Blueprint of High-Molecular-Weight Glutenin Subunits: Mechanisms Linking Genetics and Structure to Dough Freezing Tolerance – A Review

Sameh Sharafeldin, Mahmoud Naser, Toheed Akbar, ... , Shen Qun. The cryoprotective blueprint of high-molecular-weight glutenin subunits: mechanisms linking genetics and structure to dough freezing tolerance – a review, *Food Chemistry*, 2026, 149878.

[2026]

Hydrothermal modification of potato starch: Novel blanching and retrogradation impacts on structural and functional properties

Samir Mowafy, Sameh Sharafeldin, Jamilu Mustapha Ahmed, Yanhong Liu. Hydrothermal modification of potato starch: Novel blanching and retrogradation impacts on structural and functional properties, *Food Chemistry*, Volume 519.

Stepwise Defatting of Surface and Starch-Bound Lipids Improves Retrogradation Resistance and Textural Quality of Pea Starch Noodles (Food Chemistry, Accepted)

Asiamah E, Zhang N, Wang Y, Zhang J, Geng DH, Nemțanu MR, Sharafeldin S, Cheng Y. Stepwise defatting of surface and starch-bound lipids improves retrogradation resistance and textural quality of pea starch noodles. *Food Chemistry*. 2026 Jan 22:148018.

Comparison of Glutelins Characteristics Among Foxtail Millet Varieties: Functional, Physico-Chemical and Structural Modifications Induced by Hydrothermal Treatment

Akbar Toheed, Sameh Sharafeldin, ... , "Comparison of glutelins characteristics among foxtail millet varieties: Functional, physico-chemical, and structural modifications induced by hydrothermal treatment." *Int. J. Biol. Macromol* 318, 2025.

Moderate Highland Barley Intake Affects Anti-Fatigue Capacity in Mice via Metabolism, Anti-Oxidative Effects and Gut Microbiota

Zhao Liangxing, Qingyu Zhao, Sameh Sharafeldin, ... , and Qun Shen. "Moderate highland barley intake affects anti-fatigue capacity in mice via metabolism, anti-oxidative effects and gut microbiota." *Nutrients* 17, no. 4 (2025): 733.

The Effects of Chitosan Oligosaccharides on the Structure and Shelf-Life of Whole-Millet Cakes

Zhu, Yiqing, Luman Sang, Sameh Sharafeldin, Liangxing Zhao, Rui Chen, Chao Wang, Yong Xue, and Qun Shen. "The effects of chitosan oligosaccharides on the structure and shelf-life of whole-millet cakes." *Food Chemistry* 466 (2025): 142267.

Effects of Pre-Gelatinized Starch and Dry Starch Supplementation on the Structural and Functional Integrity of Single-Component Smooth Pea Starch Noodles.

Asiamah, Ebenezer, ... , Sameh Sharafeldin, ... , "Effects of pre-gelatinized starch and dry starch supplementation on the structural and functional integrity of single-component smooth pea starch noodles." *Int. J. Biol. Macromol* 319 (2025): 144267.

Relationship Between Gluten Structural Properties and Noodle Texture: Insights From Seven Wheat Varieties

Chen, Rui, Yiqing Zhu, Luman Sang, Liangxing Zhao, Sameh Sharafeldin, ... , and Qun Shen. "Relationship Between Gluten Structural Properties and Noodle Texture: Insights From Seven Wheat Varieties." *Food Bioengineering*, 2025: 210-221.

Effect of Structural Characteristics of Resistant Starch Prepared by Various Methods on Microbial Community and Fermentative Products

Li, S., Meng, Y., ... , Sharafeldin, S., Zhang, Y. and Shen, Q., 2024. Effect of structural characteristics of resistant starch prepared by various methods on microbial community and fermentative products. Int. J. Biol. Macromol, 254, p. 127725.

Canola Seed Meal as a Potential Source of Natural Antioxidant

Sharaf Eldin, Sameh GM, Hamid Ziena, Soad Khair, and Mahmoud A. Rozan. "Canola seed meal as a potential source of natural antioxidant." Alexandria Science Exchange Journal 39, no. October-December (2018): 615-619.

[2026]
Kernel Proteomics Identifies 1Ax1 and Bx7 Abundance as Synergistic Determinants of Dough Freeze-Thaw Stability (under review, Food Chemistry)

WORK EXPERIENCE

 **Damanhur University** – Elbeheira, Egypt

University Teaching Assistant

[17/10/2019 – Current]
Food and Dairy Science and Technology

 **China Agricultural University** – Beijing, China

University Teaching Assistant

[09/05/2024 – 25/07/2024]
Introduction to Food Engineering Principles and Practices

 **China Agricultural University** – Beijing, China

University Teaching Assistant

[22/01/2024 – 22/04/2024]
Oral Communication For Multilingual Students

SKILLS

OriginLab / Microsoft Office / Statistical Analysis SPSS / R Studio / Research Skillset / Protein Analysis / Scientific Publications / Motivated / Creativity / Organizational and planning skills

CONFERENCES AND SEMINARS

[02/11/2024 – 04/11/2024] Chongqing, China
The 21st Annual Meeting of CIFST

[01/06/2026 – 10/06/2026] Beijing, China
Training Workshop on Food Loss Reduction and Efficiency Improvement for CICA Member States, Academy of NAFRA

LANGUAGE SKILLS

Mother tongue(s): Arabic
Other language(s): English

RECOMMENDATIONS

Name: **Prof. Dr. Shen Qun** | PhD Supervisor

WeChat ID: wxid_syo914bc3ijjd21

Email: shenqun@cau.edu.cn | Phone number: (+86) 13693035654

Name: **Prof. Dr. Ahmed Helal** | Research Mentor

WhatsApp: +2001002908422

Email: ahmed.helal@damanhour.edu.eg | Phone number: (+20) 01002908422

RESEARCH EXPERTISE AND SKILLS

Comprehensive, Multiscale Investigation of Food Protein Molecular Structural Dynamics, Proteomics and Techno-Functional, Physico-Chemical Properties Integrating Spectroscopy, Thermal Analysis, Colloidal Characterization and Molecular Docking of Protein Interaction Mechanisms.

Description:

Proteomics (LC–MS/MS); SDS-PAGE; FTIR; Fluorescence Spectroscopy; DSC; Particle Size; Zeta Potential; Surface Hydrophobicity; Sulfhydryl (SH) Content; Secondary Structure (SS) Content; Covalent and Non-Covalent Interaction Analysis; Colloidal/Interfacial Properties; Molecular Docking (Protein Interactions)

Comprehensive Analytical and Functional Characterization of Food Proteins, Polyphenols and Bioactive Compounds Using Chromatographic, Spectroscopic, In Vitro Digestion and Biochemical Approaches.

Description:

HPLC; GC; In Vitro Digestion (Food/Dairy); Antioxidant Activity Assays; Total Polyphenols (Multiple Methods); Fluorescence Spectroscopy (Protein–Polyphenol Binding); RP-HPLC (Protein/Peptide Purification)

Integrated Fundamentals of Food and Dairy Science, Processing Technologies, Nutritional Composition Analysis, and Physico-Chemical and Rheological Characterization of Agricultural and Dairy Systems.

Description:

Dairy Processing; Food Quality & Safety; Food Chemistry; Rheology; Composition Analysis (Lipids/Proteins/Carbohydrates/Fiber)