

MOHAMMAD ZAREI (Ph.D.)

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Over 14 years of successful track record within the research/education sector including three years postdoc encompassing teaching, student supervision as well as scientific research. Experienced in developing the research proposal and securing the research grants and funds, innovative training courses, and teaching methodologies. Skilled in spearheading substantive research, accredited with 28 papers in highly-ranking and peer review international Journals and more than 10 conference presentations as well as multiple awards and developing a patent. Recognized as a self-motivated and organized academician with wide-ranging knowledge in food science and technology as well as functional foods.

Professional Strengths

Scientific Research	Syllabus Design	Faculty Administration
Experiment Designs	Assessments & Examinations	Learning & Teaching Plans
Research Funding	Scientific Journal Preparation	Students' Affairs Management
Mentoring & Guidance	Laboratory Management	Students Mentorship
Students Supervision	Teaching & Lecturing	

Academic Qualifications

Ph.D. in Food Biotechnology (CGPA: 3.732), Universiti Putra Malaysia (2010 – 2014)
(Thesis title: Generation and characterization of bioactive peptides from palm kernel cake proteins)

Master of Science in Food Science & Technology (CGPA: 3.478), University of Tabriz (1997 – 2000)

Bachelor of Science in Food Science & Technology (CGPA: 3.040), Urmia University (1993 – 1997)

Teaching & Research Experience

- Senior Lecturer**, University Technology MARA (UiTM) | Malaysia ◆ Apr 2019 – Present
- ◆ Designed syllabus and additional learning materials including films, laboratory experiments as well as slides in enhancing the delivery of Food Science & Technology courses.
 - ◆ Carried out assessments of students in the mid and final semesters.
 - ◆ Supervised Master and PhD students in conducting research.
 - ◆ Prepared manuscript for the peer reviewed journals while attending various scientific conferences
- Postdoctoral Researcher**, University Putra Malaysia ◆ Apr 2016 – April 2019
- ◆ Lead end to end research activities in the area of food science and biotechnology.
 - ◆ Supervise both Masters and PhD students in designing as well as implementing experiments while managing the laboratory.
 - ◆ Secure funding from internal and external bodies to fund the research.
 - ◆ Provide mentorship to both undergraduate and postgraduate students.
- Assistant Professor**, Azad University | Iran ◆ Feb 2015 – Apr 2016
- ◆ Designed syllabus and additional learning materials including films, laboratory experiments as well as slides in enhancing the delivery of Food Science & Technology courses.
 - ◆ Carried out assessments of students in the mid and final semesters.
 - ◆ Supervised Master and PhD students in conducting research.
 - ◆ Prepared manuscript for the peer reviewed journals while attending various scientific conferences.

- Research Assistant**, University Putra Malaysia ◆ Sept 2011 – Jan 2015
- ◆ Assisted in teaching the undergraduate course of “laboratory for chemistry and technology of plant and animal products”.
 - ◆ Provided assistance to postgraduate students in conducting research projects.

- Lecturer (Full Time)**, Azad University | Iran ◆ May 2004 – June 2010
- ◆ Designed syllabus and additional learning materials including films, laboratory experiments as well as slides in enhancing the delivery of Food Science & Technology courses.
 - ◆ Carried out assessments of students in the mid and final semesters.
 - ◆ Prepared manuscript for the peer reviewed journals while attending various scientific conferences.

- Lecturer (Part Time)**, University of Kurdistan | Iran ◆ Feb 2005 – June 2009
- ◆ Taught Food Science & Technology courses to undergraduates

University Administration Experience

- Deputy Dean of Educational & Student Affairs**, Azad University | Iran ◆ Nov 2007 – June 2010
- ◆ Provided assistance to the Dean in developing, implementing and monitoring the progress of the Faculty of Agriculture & Natural Resources.
 - ◆ Collaborated with the Associate Pro Vice-Chancellor (Education), Faculty Executive Committee and Faculty Academic Committee in developing the Learning & Teaching Plan for the entire faculty.
 - ◆ Led the comprehensive student advisory system within the Faculty and ensured adequate mechanisms for the management of student enquiries and complaints.
 - ◆ Supported the Dean in overseeing the overall management of the Faculty.
 - ◆ Served as the Acting Dean in the Dean’s absent while contributing to other Faculty and University-wide committees.

- Chairman of Research Affairs**, Azad University, Sanandaj Branch | Iran ◆ Apr 2007 – Nov 2008
- ◆ Facilitated and promoted quality researches within the faculty as well as all affiliated entities while supervising postgraduate students and laboratory staffs.
 - ◆ Partnered with research communities within the University to develop a shared responsibility for the ethical conduct of research and compliance to enable greater access for researchers to scientific infrastructures.

- Supervisor of Canteen & Nutritional Affairs**, Azad University | Iran ◆ June 2005 – Apr 2007
- ◆ Oversaw the university’s canteen and nutritional affairs including conducting periodical inspections of all eateries as well as restaurants.
 - ◆ Monitored the materials and processes used in preparing food within the university.

- Advisor of Undergraduate Student Intake**, Azad University | Iran ◆ Sept 2006 – Sept 2010
- ◆ Provided advice to students in subject selections in the Agriculture & Natural Resources faculty while monitoring the progress of each student.

Food Industries Experience

- Food Industries Inspector and Supervisor**, Industries & Mines Organization ◆ Dec 2000 – Apr 2004
- ◆ Carried out supervision and inspections of the food industries across the Kurdistan province of Iran in supporting the production of food in the best condition.
 - ◆ Monitored food production facilities in line with set criteria.
- Food Industries Consultant**, Saman Kaifyat Kurdistan Company ◆ June 2001 – June 2010
- ◆ Led the implementation HACCP and GMP standards for food factories.
 - ◆ Conducted feasibility studies in selecting the right machineries and processes to produce food at the highest quality.

Publications

- **Zarei, M.**, Forghani, B; Ebrahimpour, A., Abdul-Hamid, A., Anwar, F., Bakar, R., & Saari, N. (2015). *In vitro* and *in vivo* antihypertensive activity of palm kernel cake protein hydrolysates: sequencing and characterization of potent bioactive peptides. **Journal of Industrial Crops and Products**, 76(0), 112-120.
<http://www.sciencedirect.com/science/article/pii/S0926669015302053>
- **Zarei, M.**, Ebrahimpour, A., Abdul-Hamid, A., Anwar, F., Bakar, F.A., Philip, R., & Saari, N. (2014). Identification and characterization of papain-generated antioxidant peptides from palm kernel cake proteins. **Food Research International**, 62, 726-734.
<http://www.sciencedirect.com/science/article/pii/S0963996914002907>
- **Zarei, M.**, Ebrahimpour, A., Abdul-Hamid, A., Anwar, F., & Saari, N. (2012). Production of defatted palm kernel cake protein hydrolysate as a valuable source of natural antioxidants. **International Journal of Molecular Sciences**, 13(7), 8097–8111.
<http://www.mdpi.com/1422-0067/13/7/8097>
- Forghani, B; **Zarei, M.**, Ebrahimpour, A., Jamilah, B., A, bdul-Hamid., & Saari, N. (2016). Purification and characterization of angiotensin converting enzyme -inhibitory peptides derived from *Stichopus horrens*: stability study against the ACE and inhibition kinetics. **Journal of Functional Foods**. 20, 276-290.
<http://www.sciencedirect.com/science/article/pii/S1756464615005228>
- **Zarei, M.**, Ghanbari, R; Tajabadi, N; Abdul-Hamid; F., Bakar, F; & Saari, N. (2015) Generation, fractionation and characterization of iron-chelating protein hydrolysate from palm kernel cake proteins. **Journal of Food Science**. 81(2), C341-C347.
<http://onlinelibrary.wiley.com/doi/10.1111/1750-3841.13200/full>
- Ghanbari, R; **Zarei, M**; Ebrahimpour, A; Abdul Hamid, A; Ismail, A; Saari, N. (2015). Angiotensin converting enzyme (ACE) inhibitory and anti-oxidant activities of sea cucumber (*Actinopyga lecanora*) proteolysates. **International Journal of Molecular Sciences**. 16(12), 28870-28885.
<https://doi.org/10.3390/ijms161226140>
- Ghanbari, R; **Zarei, M**; Ebrahimpour, A; Abdul Hamid, A; Ismail, A; Saari, N. (2016). Purification and characterization of nitric oxide inhibitory peptides from *Actinopyga lecanora* through enzymatic hydrolysis. **Journal of Food Biotechnology**. 30(4), 263-277.
<https://doi.org/10.1080/08905436.2016.1234391>
- Auwal, S.M; **Zarei, M.**, Abdul-Hamid, A., & Saari, N. (2017). Optimization of bromelain-aided production of angiotensin I-converting enzyme inhibitory hydrolysates from stone fish using Response Surface Methodology. **Marine Drugs**. 15(4), 104.
<http://www.mdpi.com/1660-3397/15/4/104>
- Auwal, S.M; **Zarei, M.**, Abdul-Hamid, A., & Saari, N. (2017). Response Surface Optimisation for the Production of Antioxidant Hydrolysates from Stone Fish Protein Using Bromelain. **Evidence-Based Complementary and Alternative Medicine**. 2017,1-10
<https://www.hindawi.com/journals/ecam/2017/4765463/abs/>
- Auwal, S.M; **Zarei, M.**, Abdul-Hamid, A., & Saari, N. (2017). Improved In Vivo Efficacy of Anti-Hypertensive Biopeptides Encapsulated in Chitosan Nanoparticles Fabricated by Ionotropic Gelation on Spontaneously Hypertensive Rats. **Nanomaterials**, 7(12), 421.
<http://www.mdpi.com/2079-4991/7/12/421>
- Brishti, F.H; **Zarei, M**; Muhammad K; Rashedi, I.I F; Shukri, R; Saari, N. (2017). Evaluation of the functional properties of mung bean protein isolate for development of textured vegetable protein. **International Food Research**, 24(4), 1595-1605
[http://www.ifrj.upm.edu.my/24%20\(04\)%202017/\(34\).pdf](http://www.ifrj.upm.edu.my/24%20(04)%202017/(34).pdf)
- **Zarei, M**; Ahmadi Zenouz, A; Saari, N; Tajabadi, N; Ghanbari, R. (2017). Effect of microwave-assisted extraction on the yield and quality of pectin from apple pomace and lemon peel. **International Food Research**, 24(6), 2402-2407
- Chay, S. Y., Salleh, A., Sulaiman, N. F., Abidin, N. Z., Hanafi, M. A., **Zarei, M.**, & Saari, N. (2018). Blood-pressure lowering efficacy of winged bean seed hydrolysate in spontaneously hypertensive rats, peptide characterization and toxicity study in Sprague-Dawley rats. **Food & function**, 9(3), 1657-1671.
<https://doi.org/10.1039/C7FO01769C>

- Hanafi, M. A., Hashim, S. N., Chay, S. Y., Ebrahimpour, A., **Zarei, M.**, & Saari, N. (2018). High angiotensin-I converting enzyme (ACE) inhibitory activity of Alcalase-digested green soybean (*Glycine max*) hydrolysates. **Food Research International**, 106, 589-597
<https://doi.org/10.1016/j.foodres.2018.01.030>
- Auwal, S.M; **Zarei, M.**, Abdul-Hamid, A., & Saari, N. (2018). Enhanced physicochemical stability and efficacy of angiotensin I-converting enzyme (ACE) - inhibitory biopeptides by chitosan nanoparticles optimized using Box-Behnken design. **Scientific Reports**, 8(1), 1044
<https://www.nature.com/articles/s41598-018-28659-5>
- Bordbar, S; Ebrahimpour, A; **Zarei, M**; Saari, N. (2018). Alcalase-generated Proteolysates of Stone Fish (*Actinopyga lecanora*) Flesh as a New Source of Antioxidant Peptides. **International Journal of Food Properties**, 21(1), 1541-15-59
<https://www.tandfonline.com/doi/full/10.1080/10942912.2018.1497060>
- Eko Sukohidayat, N., **Zarei, M.**, Baharin, B., Manap, M., (2018). Purification and Characterization of Lipase Produced by *Leuconostoc mesenteroides* Subsp. *mesenteroides* ATCC 8293 Using an Aqueous Two-Phase System (ATPS) Composed of Triton X-100 and Maltitol. **Molecules** 23(7), 1800.
<http://www.mdpi.com/1420-3049/23/7/1800/htm>
- Auwal, S.M; **Zarei, M.**, Ching P.T., & Saari, N. (2018). Comparative Stability and Efficacy Study of Lipoid S75-Biopeptides Nanoliposome Composite Produced by Conventional and Direct Heating Methods. **International Journal of Food Properties**, 21(1), 2018
<https://www.tandfonline.com/doi/full/10.1080/10942912.2018.1504064>
- **Zarei, M.**, Abdul-Hamid; A., Muhialdin. J.B., & Saari, N. (2019). Relationship between antioxidant capacity and angiotensin-converting enzyme inhibitory activity of papain-generated protein hydrolysates and peptides from palm kernel cake proteins. **International Food Research Journal**. 26(5), 1641-1649
[http://www.ifrj.upm.edu.my/26%20\(05\)%202019/25.pdf](http://www.ifrj.upm.edu.my/26%20(05)%202019/25.pdf)
- Auwal, S.M., Najib, Z.A., **Zarei, M.**, Chin, P.T., & Saari, N. (2019). Identification, structure-activity relationship and in silico molecular docking analyses of five novel angiotensin I-converting enzyme (ACE)-inhibitory peptides from stone fish (*Actinopyga lecanora*) hydrolysates. **PLoS ONE**. 14 (5), e0197644
<https://doi.org/10.1371/journal.pone.0197644>
- Wazir, H., Chay, Y.S., **Zarei, M.**, Farah, S.H., Mustapha, N.A., Wan, Z.W.A, & Saari, N. (2019). Effects of Storage Time and Temperature on Lipid Oxidation and Protein Co-Oxidation of Low-Moisture Shredded Meat Products. **Antioxidants**. 8 (10), 486.
<https://doi.org/10.3390/antiox8100486>
- Muhialdin, B. J., Kadum, H., **Zarei, M.**, & Meor Hussin, A. S. (2020). Effects of metabolite changes during lacto-fermentation on the biological activity and consumer acceptability for dragon fruit juice. **LWT**, 121, 108992.
<https://doi.org/10.1016/j.lwt.2019.108992>
- Hussein, F. A., Chay, S. Y., Ghanisma, S. B. M., **Zarei, M.**, Auwal, S. M., Hamid, A. A., Saari, N. (2020). Toxicity study and blood pressure-lowering efficacy of whey protein concentrate hydrolysate in rat models, plus peptide characterization. **Journal of dairy science**, 103(3), 2053-2064.
<https://doi.org/10.3168/jds.2019-17462>
- Hussein, F. A., Chay, S. Y., **Zarei, M.**, Auwal, S. M., Hamid, A. A., Wan Ibadullah, W. Z., & Saari, N. (2020). Whey Protein Concentrate as a Novel Source of Bifunctional Peptides with Angiotensin-I Converting Enzyme Inhibitory and Antioxidant Properties: RSM Study. **Foods**, 9(1), 64.
<https://doi.org/10.3390/foods9010064>
- Arulrajah, B., Muhialdin, B. J., **Zarei, M.**, Hasan, H., & Saari, N. (2020). Lacto-fermented Kenaf (*Hibiscus cannabinus* L.) seed protein as a source of bioactive peptides and their applications as natural preservatives. **Food Control**, 110, 106969.
<https://doi.org/10.1016/j.foodcont.2019.106969>
- **Zarei, M.**, Abidin, N. B. Z., Auwal, S. M., Chay, S. Y., Haiyee, Z. A., Sikin, A. M., & Saari, N. (2019). Angiotensin Converting Enzyme (ACE)-Peptide Interactions: Inhibition Kinetics, In Silico Molecular Docking and Stability Study of Three Novel Peptides Generated from Palm Kernel Cake Proteins. **Biomolecules**, 9(10), 569.
<https://doi.org/10.3390/biom9100569>

- Ab Aziz, N. A., Salim, N., **Zarei, M.**, Saari, N., & Yusoff, F. M. (2020). Extraction, anti-tyrosinase, and antioxidant activities of the collagen hydrolysate derived from *Rhopilema hispidum*. **Preparative Biochemistry & Biotechnology**, 1-10.
<https://doi:10.1080/10826068.2020.1789991>
- Brishti, F. H., Chay, S. Y., Muhammad, K., Rashedi, I. F. M., **Zarei, M.**, & Saari, N. (2020). Texturized mung bean protein as a sustainable food source: Techno-functionality, anti-nutrient property, in vivo protein quality and toxicity. **Food & function**.
<https://doi.org/10.1039/D0FO01463J>
- Mohamad Asri, N., Muhialdin, B. J., **Zarei, M.**, & Saari, N. (2020). Low molecular weight peptides generated from palm kernel cake via solid state lacto-fermentation extend the shelf life of bread. **LWT**, 134, 110206.
<http://doi:https://doi.org/10.1016/j.lwt.2020.110206>
- Zaharuddin, N. D., Hanafi, M. A., Chay, S. Y., Hussin, F. S., Auwal, S. M., **Zarei, M.**, . . . Saari, N. (2020). Multifunctional hydrolysates from kenaf (*Hibiscus cannabinus* L.) seed protein with high antihypertensive activity in vitro and in vivo. **Journal of Food Measurement and Characterization**, 1-12.
<https://doi.org/10.1007/s11694-020-00663-2>

Patents

- **Zarei, M.**; Ebrahimpour, A.; Abdul-Hamid, A.; Saari, N. Abubakar, F. (2019). Novel bioactive peptides with antioxidant and angiotensin converting enzyme inhibitory activity from palm kernel cake. **Grant No: MY-170208-A.**

Awards

- **Gold Medal** from National Food Innovation and Product Development (**NFIPD 2019**), **Malaysia**
- **Gold Medal** from Invention, Innovation and Design Exposition (**IIDEX 2019**), **Malaysia**
- **First Prize** from the Conference Paper Presentation “Fabrication and characterization of nanoliposome encapsulated ACE-inhibitory biopeptides using lipoid S75 by thin lipid film hydration method”, **International Food Research Conference (IFRC 2017)**, **Malaysia**
- **Gold Medal** from International Invention, Innovation and Design Exhibition (**IID 2017**)
- **Silver Medal** from International Invention, Innovation and Technology Exhibition (**ITEX 2013**).
- **Silver Medal** from exhibition of Invention, Research and Innovation Malaysia (**PRPI 2012**).
- One of the **selected Top Researchers** in Kurdistan province of Iran (**2003**) among all the academic and non-academic organizations.

Grants & Funds

- **Submitted-FRGS Grant** - Identification, Characterization, and Structure-activity Relationship Study of Enzymatic-generated Bioactive Peptides from Dried Mung Bean Sprouts – 2020-2022
- **Submitted-FRGS Grant**- Exploring potential of hypoallergenic peptides of goat's milk-derived alpha-s₁-casein for reduction of allergen-specific serum binding – 2020-2022
- **Submitted- LRGS Grant** - Valorisation of poultry industry by-products for sustainable supply of halal gelatine and collagen as food ingredients - 2019-2022.
- **Submitted- University Putra Malaysia Grant** - Pre-commercial scale up of palm kernel cake protein hydrolysates as bio-ingredient to produce functional food - 2019-2020.
- **Received- FRGS Grant** - Assessment of lacto-fermented peptides derived from kenaf seed proteins as a source of natural antimicrobial agents against a broad range of food spoilage microbes- 2019-2020.
- **Received – Geran Putra IPS** - Production and Characterization of Enzymatically Hydrolysis of Whey Protein Concentrate – 2018-2019
- **Received – Geran Putra** - Development of textured vegetable protein from mung bean protein isolate and its effect on meat patty quality – 2018-2019

- **Received – Geran Putra IPS** - Production of Hydrolysate containing Biopeptides from Kenaf (*Hibiscus cannabifolius*) Seed Protein and Their Bioactivities – 2018-2019
- **Received - Ministry of Science, Research and Innovation (MOSTI)** - Improving bioavailability of antihypertensive bioactive peptides derived from *Actinopyga Lecanora* - 2017-2019.
- **Completed – UPM Holding for Alo Shafy Company** - Inhibition of Browning Reactions and Stabilization of Colour during Aloe Vera Gel Processing and Storage – 2016-2017.
- **Completed - Ministry of Higher Education** - Development of an extracellular expression system of glutamate decarboxylase (GAD) using clone-back strategy for continuous high level gaba production in food systems - 2014-2017.
- **Completed - Agro-Biotechnology Malaysia (ABI)** - Development of bioactive peptides as food ingredients from high-protein materials – 2011-2015.
- **Completed –Azad University of Kurdistan, Sanandaj Branch** – Physicochemical properties and nutritional value of some Kurdistan chickpea's species – 2008-2009.
- **Completed - Azad University of Kurdistan, Sanandaj Branch** – Identification and characterization of an Iranian traditional sourdough for flat bread production (OSKOO)-2008-2009

National Standards Development & Design

- Chairman of committee for standard design and development- National standard “**Fruits and vegetables- Canned chestnuts and canned chestnut puree- Specifications and test methods**”- No. 7210
- Chairman of committee for standard design and development- National standard “**Gum- Guidance for establish the system of hazard analysis of critical control points (HACCP)- Code of practice**”- No. 7573
- Member of committee for standard design and development- National standard “**Cereals and cereal products- Code of hygienic practice for plants of confectionary products**”- No. 6757

Conference Papers

- **Zarei, M., Azizah, A., Nazamid S. 2019.** Palm Kernel Cake as A Valuable Source of Antihypertensive Proteolysate and Bioactive Peptides: In Vitro and In Vivo Studies. **International Food Research Conference (IFRC 2019); Putrajaya, Malaysia**
- Shehu, A. M, **Zarei, M.,** Ping, T.C., Nazamid S. **2017.** Characterization of nanoliposome containing stone fish biopeptides and evaluation of its stability and bioavailability under stimulated gastrointestinal digestion. **Asian Regional Conference on System Biology (ARCSB 2017); Putrajaya, Malaysia**
- Shehu, A. M, **Zarei, M.,** Ping, T.C., Nazamid S. **2017.** Comparative Physicochemical Stability and Bioavailability Study of Nanoliposome-entrapped Angiotensin I-Converting Enzyme (ACE) Inhibitory Biopeptides Prepared by Lipid Film Hydration and Direct Hydration Methods. **The 7th Asian Conference on Colloid and Interface Science (ACCIS 2017), Kuala Lumpur, Malaysia.**
- Shehu, A. M, **Zarei, M.,** Ping, T.C., Nazamid S. **2017.** Fabrication and characterization of nanoliposome encapsulated ACE-inhibitory biopeptides using lipoid S75 by thin lipid film hydration method. **International Food Research Conference (IFRC 2017), Kuala Lumpur, Malaysia.**
- **Zarei, M.,** Ebrahimpour, A., Abdul-Hamid, A., Anwar, F., Bakar, R., & Saari, N. **2013.** Multifunctional peptides generated from palm kernel cake proteins. **The 10th Australian Peptide Conference. Penang, Malaysia.**
- **Zarei, M. 2009.** The effect of microwave on extraction yield and pectin quality in apple pomace and lemon peel. **The 5th International Symposium on Food Rheology and Structure. -14-18 June, Zurich, Switzerland.**

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- **Zarei. M. 2004.** Pectin extraction from apple pomace and lemon peel as residues of fruit juice industries, **12th International Congress on food industries, Iran.**
 - **Zarei. M. 2005.** HACCP implementing in Bisotun dairy industries and its benefits. **First Congress on Agricultural industries, Iran.**
 - **Zarei. M. 2006.** Effects of Modified Atmosphere Packaging (MAP) on Strawberry Quality- review, First Congress on Agricultural Products Packaging, **Iran.**
 - **Zarei. M. 2008.** Effect of extraction temperature on quality characteristics in extracted pectin of orange peel. Proceeding of the 18th International Congress on Food Science. **Mashhad, Iran.**
 - Darvishi. Sh., **Zarei. M.**, Beighendi, S. **2008.** Identification of yeasts in traditional sourdough using in OSKO traditional bread. Proceeding of the 18th International Congress on Food Science. **Mashad, Iran.**

