

POST-DOCTORAL RESEARCH FELLOW

Professional Overview

Biophysicist/Biochemist Expert level, research scientist and lecturer, with 16 years of experience, including 7 years teaching at the university level. Published over 20 journal articles and 30 conference proceedings. Successfully developed over 60 prototypes, 7 patents, 5 grants and performed over 25 international journal reviews, thus far. Award - winning expertise in team leadership with over 20 awards and honors for research in biochemistry, physical-biochemistry, molecular biophysics, protein and peptide chemistry, as well as performing innovative metabolic engineering, enzymology, microbiology, and molecular biology research globally.

Core Qualifications

- Protein/Peptide Chemistry
- Protein/Peptide Expression
- Protein/Peptide Purification
- Protein/Peptide Engineering
- Protein Characterization
- Molecular Biology
- Ligand-Binding Protein
- Enzyme Biotechnology
- Microbiology
- Fermentation
- Drug Delivery
- ADME
- Experimental Skills
- Spectroscopic Methods: UV-Vis, IR, Atomic Absorption, Fluorescence, etc.
- Chromatographic Methods (analytical to preparative using open column, HPLC or AKTA purifier): Gel Exclusion, Hydrophobic Interaction, Revers Phase, Ion Exchange, Affinity, etc.
- Electrophoretic Methods: SDS-PAGE, Native PAGE, Isoelectric Focusing, Offgel, 2D, Blotting Techniques, etc.
- Thermodynamic/Hydrodynamic Methods: DSC, ITC, Centrifugation, Filtration, Diafiltration, Dialysis, etc.
- Molecular Biology Methods: DNA/RNA Extraction, PCR, Genetic Engineering, Rational Gene Modification, etc.
- Cell Biology methods/ Immuno Assay: Cell Culture, Cell Phantom Preparation, MTT, ELISA, etc.
- Microbiology Methods: Screening, Identification, Fermentation, Secondary Metabolites Pathways Engineering, etc.

Education

PhD Enzyme Biotechnology, Department of Biochemistry, University Putra Malaysia, Malaysia August 2010 Thesis title: "Production Optimization and Characterization of Thermostable Recombinant Lipase from a Locally Isolated Bacterium". MSc, Biophysics, University of Tehran, Tehran, Iran September 1997 Thesis title: "Qualitative and Quantitative Studies on Protein Transportation across the Blood-Air Barrier in Cultured Alveolar Epithelial Cell Monolayer". Awarded free education via competitive entrance examination. BSc, Cell and Molecular Biology, University of Tehran, Tehran, Iran November 1993 Awarded free education via competitive entrance examination.

Experience

May 2011

to

January 2015

Company Name Post-doctoral Research Fellow

- Focused on production, purification and structure-function studies of multi-functional therapeutic peptides with Immunomodulatory, anti-inflammation, anti-hypertension, anti-oxidation and anti-microbial effects.
- Analyzed different enzymes/proteins as single molecules or as members of a network (e.g. signaling pathway), and their therapeutic/industrial applications.
- Developed the methods and conducted research on process optimization, product formulation, protein engineering, and QSAR studies, in artificial neural network, response surface modeling and other statistical methods.
- Designed and established new protein, peptide, and enzyme analytical methods and assay systems.
- Constructed gene cloning and different expression systems, and engineered the enzymes structures and functions.
- Studied the ADME of therapeutic molecules in vitro / in vivo, and developed different strategies for their delivery.
- Supervised 6 PhD, 5 MSc and 7 BSc students on multiple research projects.
- Taught university level courses in biochemistry and biophysics.
- Served as the lead on the bioactive peptides and functional molecules research team with over 22 members.
- Completed 4 research projects on study of therapeutic peptides and biofunctional molecules, which led to the development of over 60 novel prototypes, 6 patent applications, published over 9 journal articles and 7 conference proceedings.
- Designed and developed 2 recombinant GAD systems in lactic acid bacteria hosts for GABA over production.
- Received 18 awards from Invention, Innovation, Research and Technology Exhibitions.
- Created spectroscopic assay systems for the rapid screening of bioactive peptides/enzymes/microbes.

January 2007

to

December 2009

Company Name Graduate Research Assistant

- Recipient of the "Al-Biruni 2007/2008 outstanding researcher award" of enzyme and microbial technology research, and "Invention,

Innovation, Research and Technology Exhibition" of University Putra Malaysia.

- Designed and constructed recombinant fusion intra-, extra-cellular and cell surface display of a novel thermostable, organic solvent tolerant, regioselective lipase, which led to the development of a patent, 3 prototype biocatalysts and 4 journal publications.

September 2003

to

July 2005

Company Name Research Fellow

- Conducted research on enzyme biotechnology and bioelectromagnetics, which led to the development of novel approaches to inhibit/activate enzyme activity.

February 1999

to

July 2005

Company Name

- Chaired the biochemistry and biophysics research lab with 17 members.
- Published 13 conference proceedings based on the conducted study on potential of electromagnetic fields to trigger the Phosphatidylinositol signal cascades and some of biomolecular hot points such as Na⁺/K⁺ ATPase and acetylcholinesterase.
- Recent Awards Gamito Pepto Cure; Immunomodulatory and Antihypertensive Bioactive Peptides Generated from *Actinopyga lecanora*, Gold Medal, 25th International Invention, Innovation & Technology Exhibition, ITEX 2014, 8-10 May, Kuala Lumpur, Malaysia.
- VasoPept; A Marine Antihypertensive Bioingredient from *Stichopus horrens*, Gold Medal, 25th International Invention, Innovation & Technology Exhibition, ITEX 2014, 8-10 May, Kuala Lumpur, Malaysia.
- PeptoGreen; Green Soybean Proteolysate: A New Source of Antihypertensive Peptides with Industrial Application, Silver Medal, 25th International Invention, Innovation & Technology Exhibition, ITEX 2014, 8-10 May, Kuala Lumpur, Malaysia.
- Multifunctional Winged Bean Seed Proteolysate, Gold Medal, 24th International Invention, Innovation & Technology Exhibition, ITEX 2013, 9-11 May, Kuala Lumpur, Malaysia.
- An Industrially Potent *Lactobacillus plantarum* for Dual Biosynthesizing Activities for the Production of Glutamic Acid and GABA, Gold Medal, 24th International Invention, Innovation & Technology Exhibition, ITEX 2013, 9-11 May, Kuala Lumpur, Malaysia.
- Note: More award information provided by request) Patents Generation of angiotensin-converting enzyme inhibitory peptides from *Stichopus horrens*.
- PI 2013 700 448 A process for enhanced production of glutamic acid and gamma-amino butyric acid.
- PI 2013 700 338 Protein hydrolysates from *Actinopyga lecanora* and bioactive peptides.
- PI 2013 702 386 Functional bioactive peptides from palm kernel cake protein.
- PI 2013 700 397 Production of biopeptides with angiotensin-converting enzyme inhibition and antioxidant activities from winged bean seed [*Psophocarpus tetragonolobus* (L.) DC].
- PI 2013 700 449 Green soybean (*Glycine max*) seed hydrolysates with angiotensin-converting enzyme inhibitory activity.
- PI 2013 700 406 Novel microorganisms producing a thermostable lipase.
- EP 2450458, 09.05.2012 View Publications via Google Scholar and ResearchGate <http://scholar.google.com.my/citations?user=0wAGYkQAAAAJ&hl=en> http://www.researchgate.net/profile/Afshin_Ebrahimpour.

Skills

.net, Acid, BSc, com, competitive, DC, Delivery, DSC, ELISA, Exhibitions, Functional, HPLC, http, Innovation, max, Exchange, modeling, MSc, network, neural, Novel, Optimization, PAGE, pathway, PCR, PhD, producing, Publications, Research, researcher, technology research, Transportation, UV, View, articles, 386