

National Institute of Genetic Engineering & Biotechnology

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I. PERSONAL INFORMATION:

Name: Zarrin Minucmehr

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II. Education:

Institution & Location	Degree	Year	Field of Study
Tehran University	PhD	2003	Biophysics
Tehran University	M.Sc	1994	Biophysics
Isfahan University	B.Sc.	1989	Microbiology

III. PROFESSIONAL EXPERIENCE:

- Associated Professor of the National Institute of Genetic Engineering & Biotechnology 2003 till now
- Editor of: Iranian Journal of Biotechnology, Journal of Science, Modern Genetics, Iranian Journal of Biology
- Bioinformatics different skills software and hardware oriented

IV. PROFESSIONAL MEMBERSHIPS

- Vice President of the Iranian Bioinformatics Society
- Founder of the Bioinformatics Lab. In National Institute of Genetic Engineering & Biotechnology.
- Head of Nanotechnology Committee in National Institute of Genetic Engineering & Biotechnology.
- Founder of the Iran's Bioinformatics Society.
- Member of the Bioethics Committee.
- Member of the Bioinformatics Group University of Tehran.
- Member of the Biotechnology Society.
- Member of the Nanobiotechnology Committee of Iran.
- Member of Biophysical Society.
- Member of Biochemical Society.
- Member of New York Academy of Sciences.
- Member of International Hyperthermia Society.

V. AWARDS AND HONORS:

- The first Iranian woman to obtain a Ph.D. in Biophysics.
- Many grants and fellowships for attending different conferences along with the ISMB/ECCB Best Presentation Award by the committee of international conference for intelligent systems for molecular biology and the European conference on computational biology.

VI. SELECTED LECTURES:

- Organizer and lecturer of the 3rd and 4th Iranian Conference on Bioinformatics
- Organizer and lecturer in workshops in Bioinformatics (two international and 6 local workshops until now)
- One of the organizers and a member of the scientific committee in the first Bioinformatics Conference of Iran 2003.

- 2th International Training Course on Bioinformatics, Institute of Biochemistry and Biophysics, University of Tehran, Sep 2004, Tehran, Iran.
- Coordinator of the National BINASIA workshop, Nov. 2005, Tehran, Iran.
- DNA Cloning Workshop at National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran.
- Workshop of NMR, Tarbiat Modares University, Tehran, Iran.
- Workshop on Tissue and Cell Culture: University of Tehran, Tehran Iran.
- International Workshop on Microarray Data Analysis, Iran Bioinformatics Society, University of Tehran, May 2006, Tehran Iran.
- Application of Bioinformatics in Molecular Biotechnology, National Institute of Genetic Engineering and Biotechnology (NIGEB) and Institute for Research and Planning in Higher Education (IRPHE), Dec 2006 Tehran, Iran.
- Workshop on Expression, Production and Assay of Enzyme for Biotechnological Purposes, National Institute of Genetic Engineering and Biotechnology (NIGEB) and Institute for Research and Planning in Higher Education (IRPHE), Dec 2006 Tehran, Iran.

VII. TEACHING EXPERIENCE:

- MacroMolecular Structure
- Biophysics
- Cellular Biophysics
- Bioinformatics
- Protein Engineering
- Protein structure

VIII. RESEARCH INTERESTS:

International Projects:

- Propensity analysis for amino acids in loop regions connecting secondary structure in proteins.

- Sequence analysis of the exon intron database for DNA hopping.
- Automatic Propensity Calculation of Amino Acids In Different Groups of Protein.

National Projects:

- Study of a Biological Network between Endoplasmic Reticulum Stress and Inflammation in Retinal Degenerative Diseases
- N-MYC sequence analysis (Comparative Modeling of N-MYC Structure)
- Building nanostructures from bottom up using protein and DNA and analyzing the related nucleotide sequences
- Analyzing different proteins used in nanobiotechnology
- Prediction of the secondary structure of Proteins using doublets overlapping information on known PDB structures.
- Doublets containing proline in α -Helices
- Teaching the Bioinformatics Skills in Iran
- A metabolomics, proteomics and Transcriptomics comparison of induced and constitutive recombinant protein production during high cell density cultivation Identification of Oil hydrocarbon degrading Enzymes from genome of *Alcanivorax borkumensis* using Bioinformatics and Molecular Biology Methods

X. PUBLICATIONS:

International AND National Journals:

1. Moradifard S, Hoseinbeyki M, Ganji SM, **Minucmehr Z.**, Analysis of microRNA and Gene Expression Profiles in Alzheimer's Disease: A Meta-Analysis Approach. Scientific Reports. 2018 March 19;8(1):4767.
2. Saberi anvar M, **Minucmehr Z**, Shahlai M, Kheitan S. Gastric cancer biomarkers; A systems biology approach. Biochemistry and Biophysics Reports. 2018 March: 13:141-146.
3. Kheitan S, **Minucmehr Z**, Soheili ZS. Exploring the cross talk between ER stress and inflammation in age-related macular degeneration. PLoS One. 2017 Jul 24;12(7):e0181667. doi: 10.1371/journal.pone.0181667. eCollection 2017.
4. Samoudi M, **Minucmehr Z**, Harcum SW, Tabandeh F, Omid Yeganeh N, Khodabandeh M. Rational design of glycoengineered interferon- β analogs with improved aggregation state: experimental validation. Protein Eng Des Sel. 2017 Jan;30(1):23-30. Epub 2016 Nov 23.

5. Saberi anvar M, **Minucmehr Z**, Shahlaei M, Kheitan S. An In silico method to identify key proteins involved in the development of gastric cancer." *Research-in-Medicine*. 2017 41(3): 199-209.
6. Bahramali G, Goliaei B, **Minucmehr Z**, Marashi SA. A network biology approach to understanding the importance of chameleon proteins in human physiology and pathology. *Amino Acids*. 2017 Feb;49(2):303-315. doi: 10.1007/s00726-016-2361-6. Epub 2016 Nov 24
7. **Minucmehr Z** , Kheitan S. , *Bioinformatics in a Nutshell*. *Bioinformatics and Biocomputational Research*. 2016. 1(1) 34-41.
8. Bahramali G, Goliaei B, **Minucmehr Z**, Salari A. Chameleon sequences in neurodegenerative diseases. *Biochemical and biophysical research communications*. 2016;472(1):209-16.
9. Samoudi M, Tabandeh F, **Minucmehr Z**, Cohan RA, Inanlou DN, Khodabandeh M, et al. Rational design of hyper-glycosylated interferon beta analogs: A computational strategy for glycoengineering. *Journal of Molecular Graphics and Modelling*. 2015;56:31-42.
10. Kheitan S, Soheili Z-S, **Minucmehr Z**. Construction and Validation of a Biological Network for GRP78 Protein and Inflammatory Factors. *Genetics in the Third Millennium*. 2015;12(4):3744-53.
11. Jelokhani-Niaraki S, Tahmoorespur M, **Minucmehr Z**, Nassiri MR. An Ontology-Based GIS for Genomic Data Management of Rumen Microbes. *Genomics & informatics*. 2015;13(1):7-14.
12. Allahyari Fard N, **Minucmehr Z**, Rahgozar M. Novel Genetically Modified Foods and Allergenicity Assessment of Them, Case Study: Tarom GM Rice. *Current Nutrition & Food Science*. 2015;11(1):11-5.
13. Zare M, Hadi F, **Minucmehr Z**, Amani J, Salmanian AH. Effects of missense R84Q mutation on human Pyrroline-5-carboxylate synthase enzyme properties, an in-silico analysis. *Journal of Applied Biotechnology Reports*. 2014;1(1).
14. Shahnazari P, Sayehmiri K, **Minucmehr Z**, Parhizkar A, Poustchi H, Montazeri G, et al. The Increased Level of Serum p53 in Hepatitis B-Associated Liver Cirrhosis. *Iranian journal of medical sciences*. 2014;39(5):446-51.
15. Reisi S, Sanati MH, Tabatabaiefar MA, Pourjafari HR, **Minucmehr Z**, Shavarzi A, et al. Study of the Association of DFNB3 Locus with Autosomal Recessive Non-Syndromic Hearing Loss in Iranian Deaf Population Using Genetic Linkage Analysis. *Journal of Isfahan Medical School* 2014;32(285):669-77.

16. Mansouri S, Monajjemi M, Aghaee H, Zare K, **Minucmehr Z**. Molecular Dynamic Study of Human Prion Protein upon D178N Mutation: New Perspective to H-bonds, Salt Bridges and the Critical Amino Acids. *Protein and peptide letters*. 2013;20(7):775-80.
17. Fard NA, **Minucmehr Z**, Mousawi A. Allergenicity study of genetically modified herbicide resistant crops (Bioinformatics Assessment). *Bull Env Pharmacol Life Sci*. 2013;2(3):24-32.
18. Alashti FA, **Minucmehr Z**. MiRNAs Which Target CD3 Subunits Could Be Potential Biomarkers for Cancers. *PloS one*. 2013;8(11):e78790.
19. Akbarzadeh-Sharbat S, Yakhchali B, **Minucmehr Z**, Shokrgozar MA, Zeinali S. Expression Enhancement in Trastuzumab Therapeutic Monoclonal Antibody Production using Genomic Amplification with Methotrexate. *Avicenna journal of medical biotechnology*. 2013;5(2):87-95.
20. Shokrgozar Z, Tayebi S, **Minucmehr Z**, Mohamadkhani A. Hepatitis B Virus Genome Asymmetry in Hepatocellular Carcinoma. *Middle East Journal of Digestive Diseases*. 2012;4(3):150-7.
21. Allahyari Fard N, **Minucmehr Z**, Mousavi A. In Silico Analysis for Allergenicity Assessment of Novel Proteins of Genetically Modified Organisms. *Genetics in the 3rd millennium*. 2012;10(3):2846-55.
22. Akbarzadeh-Sharbat S, Yakhchali B, **Minucmehr Z**, Shokrgozar MA, Zeinali S. In silico design, construction and cloning of Trastuzumab humanized monoclonal antibody: A possible biosimilar for Herceptin. *Advanced biomedical research*. 2012;1:21.
23. Mohamadkhani A, Shahnazari P, **Minucmehr Z**, Madadkar-Sobhani A, Tehrani MJ, Jazii FR, et al. Protein-x of hepatitis B virus in interaction with CCAAT/enhancer-binding protein α (C/EBP α)-an in silico analysis approach. *Theoretical Biology and Medical Modelling*. 2011;8(1):41.
24. Farazmand A, Yakhchali B, Shariati P, **Minucmehr Z**, Ofoghi H. In silico genome-wide screening for TnrA-regulated genes of *Bacillus clausii*. *Iran J Biotechnol*. 2011.
25. Eskandari V, Yakhchali B, **Minucmehr Z**. In-silico prediction of permissive sites of CstH subunit of *E. coli* CS3 pili for insertion of foreign peptides. *Iranian Journal of Biology*. 2010.
26. Mohammadkhani A, **Minucmehr Z**, Madadkar-Sobhani A, Sotoudeh M, Jazii FR, Malekzadeh R. W1803 3D Structure of Protein-X of Hepatitis B Virus. *Gastroenterology*. 2009;136(5):A-865.
27. Haji Mohammadi H, **Minucmehr Z**, Madadkar-Sobhani A. In silico assessment shows that Iranian Bt rice is not allergenic. *Journal of Biosafety*. 2009;1(2):17-26.
28. Mohammadkhani A, **Minucmehr Z**, Sobhani AM, Sotoudeh M, Poustchi H, Jazii FR, et al. PP-010 3D structural and dynamic features of Protein-x of hepatitis B virus. *International Journal of Infectious Diseases*. 2008;12:S58.

29. Mahdevar G, Rahimi A, **Minucmehr Z**. Prediction of location and type of B-turns of a protein using self organizing neural network. *Journal of Science (University of Tehran)*. 2008;34(3):55-9.
30. Soheili ZS, **Minucmehr Z**, Samiei S, Ataei Z, Kavari M, Talebian A. The investigation of phosphatidylinositol 3-kinase (PI3K) isoforms which express by human prostate cancer cell lines, PC3 and DU145. *Feyz Journals of Kashan University of Medical Sciences*. 2006;10(3).
31. Soheili Z, **Minucmehr Z**. Molecular Motors. *Modern Genetics*. 2005;Winter(1):25-9.
32. **Minucmehr Z**, Goliaei B. Propensity of Amino Acids in Loop Regions Connecting Beta-Strands. *Protein and peptide letters*. 2005;12(4):379-82.
33. Soheili Z, **Minucmehr Z**. *Bioinformatics and the Genome Project*. Shargh. 2004(127):15.
34. **Minucmehr Z**, Goliaei B. Protein Databases. *Iranian Journal of Pharmacology & Therapeutics (IJPT)*. 2004;3(1):1-11.
35. **Minucmehr Z**, Goliaei B. High tendency for amino acid neighbors in alpha helices. *Journal of the Iranian medical sciences*. 2003;Autumn(35):469-75.
36. **Minucmehr Z**, Goliae B. The Study of Tendency for Amino Acid Neighbors in Alpha Helices. *Razi Journal of Medical Sciences*. 2003;10(35):469-75.
37. Goliaei B, **Minucmehr Z**. Exceptional pairs of amino acid neighbors in α -helices. *FEBS letters*. 2003;537(1):121-7.
38. **Minucmehr Z**, Goliaei B. Local propensity for different locations of an alpha-helix. *Biochemical Society Transactions*. 2000;28(5):A147-A.
31. Goliaei B, **Minucmehr Z**. Inhibition and recovery of GM-CSF production in the lung after hyperthermia. *International journal of hyperthermia : the official journal of European Society for Hyperthermic Oncology, North American Hyperthermia Group*. 1999;15(6):541-7.