

Asiyeh Sadat Zahedi

MSc, **Cellular and Molecular Biology, Microbiology**, 2012; Shahed University

Email: asie_zahedi@yahoo.com



Background

I've been interested in genetics since the days of elementary school. I started my university education in biology and I got high grades in genetic courses. Despite this interest, due to the industrial application of the field of microbiology, got MSc degree in microbiology by focusing on its industrial aspects. The field of microbiology did not attract me as much as the field of genetics. Therefore, I passed some advanced courses of molecular biology and genetics at Cellular and Molecular Research Center, Research Institute for Endocrine and Metabolic Sciences and I have continued to work with the center from 2014.

Education

- **B.Sc. | 2003 - 2007| Shahid Beheshti University; Biology**
- **M.sc | 2010 - 2012| Shahed University; Cellular and Molecular Biology, Microbiology**

Thesis title: Modeling Evolution of the Genetic Material by the Statistical Mechanics.

My goal in the Master's Thesis was characterized of microbial structure of soil to optimized bioremediation methods. Bioremediation is one of the natural processes that helps to remove contaminants from the environment by microorganisms. This is one of the most cost-effective ways to eliminate oil pollution.

Publications

1. Faam B, **Zahedi A**, Hedayati M, Azizi F, Mansournia Ma, Daneshpour M ASSOCIATION BETWEEN SR-BI EXON1 (G→A) POLYMORPHISM AND LIPID PROFILE IN TEHRAN POPULATION: TEHRAN LIPID AND GLUCOSE STUDY. *Iranian Journal of Diabetes and Lipid Disorders*. 2015;**15**:45-52.
2. **Zahedi AS**, Sedaghati-Khayat B, Behnami S, Azizi F, Daneshpour MSJTUMJTP Associations of common polymorphisms in GCKR with metabolic syndrome. 2018;**76**:459-468.
3. Javanrouh Givi N, Najd Hassan Bonab L, Barzin M, **Zahedi A**, Sedaghati-khayat B, Akbarzadeh M, et al. The joint effect of PPARG upstream genetic variation in association with long-term persistent obesity: Tehran cardio-metabolic genetic study (TCGS). *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity* 2021;
4. Moazzam-Jazi, M., Najd Hassan Bonab, L., **Zahedi, A.S.** et al. High genetic burden of type 2 diabetes can promote the high prevalence of disease: a longitudinal cohort study in Iran. *Sci Rep* 10, 14006 (2020). <https://doi.org/10.1038/s41598-020-70725-4>

5. Hosseinpour-Niazi S, Bakhshi B, **Zahedi A-S**, Akbarzadeh M, Daneshpour MS, Mirmiran P, et al. TCF7L2 polymorphisms, nut consumption, and the risk of metabolic syndrome: a prospective population based study. *Nutrition & Metabolism* 2021;**18**:10.
6. **Zahedi AS**, Akbarzadeh M, Sedaghati-Khayat B, Seyedhamzehzadeh A. Daneshpour MS GCKR common functional polymorphisms are associated with metabolic syndrome and its components: a 10-year retrospective cohort study in Iranian adults. *Diabetology & Metabolic Syndrome* 2021;**13**:20.
7. Kolifarhood G, Daneshpour MS, **Zahedi AS**, Khosravi N, Sedaghati-Khayat B, Guity K, et al. Familial genetic and environmental risk profile and high blood pressure event: a prospective cohort of cardio-metabolic and genetic study. *Blood Pressure* 2021;1-9.
8. Akbarzadeh, M., P. Riahi, A. Ramezankhani, S. R. Dehkordi, M. A. Roudbar, M. Zarkesh, K. Guity, D. Khalili, **A. S. Zahedi**, F. Azizi and M. S. Daneshpour (2022). "Parental Transmission Plays the Major Role in High Aggregation of Type 2 Diabetes in Iranian Families: Tehran Lipid and Glucose Study." *Canadian Journal of Diabetes* 46(1): 60-68.
9. Hosseini-Esfahani, F., **A. S. Zahedi**, M. Akbarzadeh, A. Seyedhamzehzadeh, M. S. Daneshpour, P. Mirmiran and F. Azizi (2022). "The resemblance of dietary intakes in three generations of parent-offspring pairs: Tehran lipid and glucose study." *Appetite* 169: 105794.
10. Moazzam-Jazi M, **Zahedi AS**, Akbarzadeh M, Azizi F, and Daneshpour M S.(2022) Diverse effect of MC4R risk alleles on obesity-related traits over a lifetime: Evidence from a well-designed cohort study. *Gene*. 807: 145950.
11. Akbarzadeh, M., N. Alipour, H. Moheimani, **A. S. Zahedi**, F. Hosseini-Esfahani, H. Lanjanian, F. Azizi and M. S. Daneshpour (2022). "Evaluating machine learning-powered classification algorithms which utilize variants in the GCKR gene to predict metabolic syndrome: Tehran Cardio-metabolic Genetics Study." *Journal of Translational Medicine* 20(1): 164.
12. Mirmiran P, **Zahedi AS**, Koochakpour G, Hosseini-Esfahani F, Akbarzadeh M, Daneshpour MS, et al. (2022) Resemblance of nutrient intakes in three generations of parent-offspring pairs: Tehran lipid and Glucose Study. *PLoS ONE* 17(4): e0266941. <https://doi.org/10.1371/journal.pone.0266941>
13. Lanjanian, H., L. Najd Hassan Bonab, M. Akbarzadeh, M. Moazzam-Jazi, **A. S. Zahedi**, S. Masjoudi and M. S. Daneshpour (2022). "Sex, age, and ethnic dependency of lipoprotein variants as the risk factors of ischemic heart disease: a detailed study on the different age-classes and genders in Tehran Cardiometabolic Genetic Study (TCGS)." *Biology of Sex Differences* **13**(1): 4.
14. Daneshpour, Maryam S., Mahdi Akbarzadeh, Hossein Lanjanian, Bahar Sedaghati-khayat, Kamran Guity, Sajedeh Masjoudi, **Asiyeh Sadat Zahedi**, et al. "Cohort Profile Update: Tehran Cardiometabolic Genetic Study." *European Journal of Epidemiology* (2023/05/12 2023). <https://doi.org/10.1007/s10654-023-01008-1>.

Projects

1. Relationship between parental cardiovascular status score and obesity, overweight and metabolic syndrome in their offspring: TLGS
2. Application of penalized regression models to predict metabolic syndrome using variants using GCKR, APOA5 and BUD13 risk variants: Tehran cardio metabolic genetics study

3. Genetic evidence of assortative mating and long-term spousal resemblance in Tehran Cardiometabolic and Genetic Study (TCGS)
4. Investigating heritability patterns of various general and central obesity indices among participants in Tehran Cardiometabolic Genetic Study (TCGS)
5. Investigating heritability patterns of various general and central obesity indices among participants in Tehran Cardiometabolic Genetic Study (TCGS)
6. The Effect of different variants of angiotensinogen (AGT) gene on the incidence of adult essential hypertension and its treatment among inhabitants of Tehran: a Tehran Lipid and Glucose Study (TLGS)
7. Association of Aldosterone synthase (As) Gene (CYP11B2) and its variants with adult essential hypertension: Tehran Lipid and Glucose Study (TLGS).
8. Association of Renin (REN) gene and its variants with adult essential hypertension: Tehran Lipid and Glucose Study (TLGS)
9. Genome-Wide Association Study to recognize associated the genomic regions with obesity in the Iranian between 6-19 years old : The Tehran Cardiometabolic Genetics Study (TCGS)
10. Assessment of rs139407567, rs4930195 and rs641081 polymorphisms frequency in AIP gene in acromegal patients: A descriptive-analytic study
11. Application of longitudinal regression tree algorithms for discovering new effective genetic variants on the blood pressure: Tehran Cardio-metabolic genetic study (TCGS)
12. Determining the association of 31 SNP from genome-wide association studies with serum levels of free thyroxin and thyroid stimulating hormone in Tehran Thyroid Study population
13. Association of G-Protein β 3-Subunit gene and its variants with adult essential hypertension: Tehran Lipid and Glucose Study
14. Association of AT1R gene and its variants with adult essential hypertension: Tehran Lipid and Glucose Study
15. Association of ACE gene and its variants with adult essential hypertension: Tehran Lipid and Glucose Study
16. Identification of variants in genes related to the immune system and inflammation and their association with obesity incidence in an Iranian population: Tehran Cardio-Metabolic Genetic Study (TCGS)
17. Relation of Genome-wide association study and heritability estimation of adult height in Tehranian population: Tehran Cardio-metabolic genetic study (TCGS)
18. Evaluating machine learning-powered classification algorithms which utilize variants in the GCKR gene to predict metabolic syndrome: Tehran Cardio-metabolic Genetics Study
19. A review of Structural Equation Models Applications in Genome-wide Association Studies
20. Design of a standard pipeline for genotype-phenotype quality control within Tehran Cardiometabolic Genetic Study (TCGS) database: Family-based study quality control
21. Discovery of structural variations (SV) of type insertion within the genomic region involved in cardiovascular disease in Tehran cardiometabolic genetic study
22. Discovery of structural variations (SV) of type inversion within the genomic region involved in cardiovascular disease in Tehran cardiometabolic genetic study
23. Investigation of Type 2 Diabetes genetic factors associated along with the mediatory effect of lipid traits in a causality network in genome wide association study (GWAS)
24. survey of interaction between nut consumption , rs7903146 and rs12255372 polymorphism of TCF7L2 and risk of MetS among Tehranian adults: Tehran Lipid and Glucose Study
25. Investigation the association of variants within ABO and Rh blood group-related genes in Iranian genome sequencing data with Coronary Heart Disease (CHD)
26. Survey of resemblance in food patterns of parents-offsprings in different or same family clustering
27. Investigation of variants related to blood groups (ABO and Rh) in Iranian genome sequencing data

28. Interaction between air particulate matter (PM2.5-PM10) and polymorphisms of genes of ARAP1, DUSP8, KCNJ11, MTNR1B and KCNQ1 on the risk of type 2 diabetes in the adult population of the Tehran Lipid and Glucose Study (TLGS)
29. Gene-gene and gene environment interactions on primary hypertension in Tehran Cardiometabolic and Genetic Study(TCGS) participants.
30. Study of association and heritability of 8 genetic markers in BUD13/ZNF263 locus in high risk families with metabolic syndrome in of Tehran Lipid and Glucose Study (TLGS).
31. Associations of rs780094 , rs780093 and rs1260326 polymorphisms in GCKR with metabolic syndrome in Tehran lipid and glucose study
32. Calculation of familial aggregation and heritability in families with genetic blueprint factors associated with lipid levels in cardiometabolic Tehran
33. Establish and setting the context for analysis genome wide association data of Tehran genetic cardio-metabolic studies, phase 4: Iranian Genomic Reference Panel (IrGRP)
34. Establish and setting the context for reusing and analysis Genome Wide Association study data to use in further Genetic Cardiometabolic studies (Phase 1: infrastructures for NGS analysis)
35. Evaluation of LPA gene polymorphisms (rs10455872, rs3798220) in cardiovascular disease in Tehran Lipid and Glucose Study
36. Comparative study of genetic variations in MC4R and obesity in Tehran Lipid and Glucose Study families

Laboratory Assistant

Research Institute for Endocrine Sciences Shahid Beheshti University of Medical Sciences Tehran, Iran

Genoscope Diagnostics Company Tehran, Iran

Computer skills

- SPSS
- Progeny
- Linux
- Gene Runner
- Office
- R
- Haploview

Education Courses

- PCR Primer Design, 2013
- Tools for research: from information gathering to effective presentation, 2013
- Application of UCSC genome browser in medicine, 2013
- primary & Advanced research methodology,2016
- Linux and Shell Script, 2018
- Programming with R and its application in genome wide association analysis Article Writing, 2019