

Nazanin HOSSEINKHAN

PERSONAL DATA

ADDRESS: Institute of Endocrinology and Metabolism, Iran University of Medical Sciences, Tehran, Iran
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RESEARCH EXPERIENCE

CURRENT Jul 2019-Jun 2023	Assistant Professor, Institute of Endocrinology and Metabolism, Iran University of Medical Sciences, Tehran, Iran
May 2018-Jul 2019	Postdoctoral researcher, Institute of Endocrinology and Metabolism, Iran University of Medical Sciences
Jan 2016-Feb 2018	Researcher, Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences
Jul 2010-Oct 2012	Researcher, Parasitology department, Pasteur institute, Tehran, Iran Collaboration in a project on the epidemiology of <i>Plasmodium vivax</i> in Iran.
Oct 2005-Sep 2007	Researcher, Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences Collaboration in projects on food borne diseases

EDUCATION

SEP 2010-Feb 2016	PhD in Bioinformatics (Major: Systems Biology), Tehran University Thesis title: "Genome scale gene co-expression study of three bacterial residents of cystic fibrosis lung using systems biology approaches" Advisor: Prof. Ali Masoudi Nejad
SEP 2002-Sep 2005	M.Sc. in Microbiology , Shahid Beheshti University Thesis title: "Investigation of antibiotic resistance and genotyping of <i>Pseudomonas aeruginosa</i> strains isolated from Iranian patients with cystic fibrosis" Advisor: Dr. Fereshteh Eftekhari
SEP 1997-Jul 2001	B.Sc. in Cellular and Molecular Biology , Azad University, Tehran north branch,

HONORS

SEPTEMBER 2005 Award of the top student at Shahid Beheshti University

INVITED SPEAKER AT CONFERENCES & WEBINARS

- 1st International and 10th National Iranian Conference on Bioinformatics, Feb 22-24, 2022, Kish Island, Iran
- 2nd International and 11th National Iranian Conference on Bioinformatics, Feb 28-29, 2023, Tehran, Iran
- Computational Webinar Series(CWS), Feb 4, 2022, Amirkabir University of Technology, Iran
- Bioinformatics and Systems Biology webinar, Sep 12, 2021, Islamic Azad University, Azarshahr Branch, Iran
- 3rd International and 5th National IASBS Symposium on Biological Sciences: Computational Biology, January 15-17 2020/ Dept. Biological Sciences, IASBS, Zanjan, Iran
- 2nd International Computational Biology Workshop, 9-11 December 2020, Amirkabir University of Technology, Iran
- Application of Bioinformatics in Regenerative Medicine Symposium, 20 April 2018, Alzahra University, Tehran, Iran

PROFESSIONAL SKILLS

- programming languages: R, C++
- OS: Linux, Windows

RESEARCH INTERESTS

- Endocrine related diseases
- Cancer Research
- Metagenomics studies

RECENT PROJECTS

- Analysis of gene regulatory network in patients with papillary thyroid cancer to identify dysregulated TF-miRNA feed-forward loops (on-going project), grant received from Iran University of Medical Sciences (IUMS)
- Identification of cancer predisposing mutations in obese and overweight individuals using whole genome sequencing data (on-going project), grant received from Iran University of Medical Sciences (IUMS)

- Evaluation of the effects of mutations on the structure and function of 4 critical proteins in papillary thyroid carcinoma (PTC) (on-going project), grant received from Iran University of Medical Sciences (IUMS)
- Pan-cancer gene co-expression networks comparison between cancer patients with or without obesity/overweight using gene expression data sets (on-going project), grant received from Iran University of Medical Sciences (IUMS)
- Investigating the role of circular RNA in Pancreatic cancer using Systems Biology Approaches , (on-going project), grant received from Iran National Science Foundation

COURSES TAUGHT

- **Bioinformatics and Programming language**

Shahed University

Iran University of Medical Sciences (IUMS)

Kish International Campus, Tehran University

- **Gene Expression Data Analysis**

Amirkabir University of Technology

Tarbiat Modares University

- **Systems Biology**

Amirkabir University of Technology

Tehran University of Medical Sciences

- **Biological Sequence Analyses**

Amirkabir University of Technology

- **Biology Technical language**

Azad University

EDITORIAL TEAM MEMBERSHIP

- Pituitary Adenomas: Targeted Therapy Journal(Frontiers in Endocrinology)
- Prognostic Factors in Pituitary Tumors: Clinical, Biochemical, Imaging, and Pathological Aspects Journal (Frontiers in Endocrinology)
- 2nd International and 11th Iranian Conference on Bioinformatics, 28-29 Feb 2023

JOURNAL REVIEWER

- Computers in Biology and Medicine
- Frontiers in Genetics
- Frontiers in Cell and Developmental Biology
- Frontiers in Oncology
- Frontiers in Endocrinology

- Journal of Ophthalmic and Optometric Sciences
- Briefing in Bioinformatics
- Microbial Ecology
- Computational Biology and Chemistry
- DNA and Cell Biology
- Scientia Iranica
- Informatics in Medicine Unlocked
- Genomics
- Microbial Pathogenesis
- Gastroenterology and Hepatology from Bed to Bench (GHFBB)
- Iranian Journal of Biotechnology

DOCTORAL DISSERTATION DEFENSE COMMITTEES

- Mazaher Maghsoodloo, Tehran University Kish International Campus, 2020
- Nadia Barjesteh, Tehran University Kish International Campus, 2019

M.SC. DISSERTATION DEFENSE COMMITTEES

- Maryam Rastegari, Amirkabir University of Technology, 2021
- Sohrab Salehi, Amirkabir University of Technology, 2022
- Arezoo Pakseresht, Amirkabir University of Technology, 2022

DOCTORAL PROPOSAL COMMITTEES

- Alireza Shariatmadar, Tehran University Kish International Campus, 2021
- Hamidreza Taherkhani, Tehran University Kish International Campus, 2019
- Siamak Salimi, Tehran University Kish International Campus, 2019
- Azadeh Kavianfar, Tehran University Kish International Campus, 2019
- Safar Vafadar, Institute of Biochemistry and Biophysics, Tehran University, 2018

STUDENTS

- M.Sc.:

Abbas Allahverdi, Azad University

Mahdis Habibpour, Amirkabir University of Technology

Maryam Pourganji, Tarbiat Modarres University

- PhD:

Simin Abbassi, Tehran University of Medical Sciences

Bahareh Arghavan, Tehran University of Medical Sciences

Maryam Abtin, Tehran University of Medical Sciences

Fazlollah Mirzaeinasab, Azad University

HOLDING WORKSHOPS

- Gene Expression Data Analysis (Differential expression analysis, co-expression network construction)
- RNASeq Data Analysis using Galaxy web server
- Single Cell Sequencing Data Analysis
- Introduction to Systems Biology (Biological networks analyses)
- Introduction to Metagenomics
- Advanced Microsoft Excel
- Advanced Microsoft Word

PUBLICATIONS

Books:

- Ali Masoudi-Nejad, Zahra Narimani, **Nazanin Hosseinkhan**. Next Generation Sequencing and Sequence Assembly: methodologies and algorithms. SpringerBriefs in Systems Biology (2013)
- Kaveh Baghaei, **Nazanin Hosseinkhan**, et al. Next Generation Sequencing. Health Services, Shahid Beheshti University of Medical Sciences (2017).

Papers:

- **Nazanin Hosseinkhan**, Zahra Narimani, Nastaran Masoudi-Khoram, Mohammad E Khamseh. The higher body mass index is associated with a lower somatic mutation dependency in hepatocellular carcinoma. Informatics in Medicine Unlocked (2023)
- **Nazanin Hosseinkhan**, Mohammad E Khamseh, Margherita Bignami, Alessandro Giuliani. Outcome prediction in Pituitary adenomas. Frontiers in Endocrinology (2022)
- **Nazanin Hosseinkhan**, Maryam Honardoost, Zahra Emami, Sara Cheraghi, Nahid Hashemi-Madani, Mohammad E.Khamseh. A systematic review of molecular alterations in invasive non-functioning pituitary adenoma. Endocrine (2022)
- Fazlollah Mirzaeinasab, Yousef Seyedena, **Nazanin Hosseinkhan**, Ahmad Majd, Mehrdad Hashemi. Reconstruction and Evaluation of Co-expression Network of Genes Encoding Proteins in Gastric Cancer. Journal of Human Genetics and Genomics (2022)
- **Nazanin Hosseinkhana** ,Maryam Honardoost ,Kevin Blighe ,Tara Moore ,Mohammad E.Khamseh. Large contribution of copy number alterations in early stage of Papillary Thyroid Carcinoma.Computers in Biology and Medicine (2021)
- Simin Abbasi, **Nazanin Hosseinkhan**, Nazanin Zahra Shafiei Jandaghi, Kaveh Sadeghi, Abbas Rahimi Foroushani, Seyed Abbas Hassani, Jila Yavarian, Talat Mokhtari Azad. Impact of human rhinoviruses on gene expression in pediatric patients with severe acute respiratory infection.Virus Research (2021)

- Bahareh Arghavan, Mohammad Shafiee, Seyed Jamal Hashemi, Sadegh Khodavaisy, **Nazanin Hosseinkhan**, Mojtaba Didehdar, Muhammad Getso, Ayatollahi Aliasghar, Sassan Rezaie. Dysregulation of Key Proteinases in *Aspergillus fumigatus* Induced by Blood Platelets. *Informatics in Medicine Unlocked* (2021)
- **Nazanin Hosseinkhan**, Abbas Allahverdi, Fereshteh Abdolmaleki. The novel potential multidrug-resistance biomarkers for *Pseudomonas aeruginosa* lung infections using transcriptomics data analysis. *Informatics in Medicine Unlocked* (2020)
- Nastaran Masoudi-Khoram, Parviz Abdolmaleki, **Nazanin Hosseinkhan**, Alireza Nikoofar, Seyed Javad Mowla, Hamideh Monfared, Gustavo Baldassarre. Differential miRNAs expression pattern of irradiated breast cancer cell lines is correlated with radiation sensitivity. *Scientific Reports* (2020)
- **Nazanin Hosseinkhan**. New transcriptomics biomarkers involved in Cisplatin-Fluorouracil resistance in gastric cancer. *Informatics in Medicine Unlocked* (2020)
- **Nazanin Hosseinkhan**, Maryam Honardoost, Kevin Blighe, C.B.T Moore, Mohammad Ebrahim Khamseh. Comprehensive transcriptomic analysis of Papillary Thyroid Cancer: potential biomarkers associated with tumor progression. *Journal of Endocrinological Investigation* (2020)
- Maryam Khorasani , Shirin Shahbazi , **Nazanin Hosseinkhan**, Reza Mahdian . Analysis of Differential Expression of microRNAs and Their Target Genes in Prostate Cancer: A Bioinformatics Study on Microarray Gene Expression Data. *International journal for Molecular and Cellular Medicine* (2019)
- Hossein Lanjanian, Abbas Nowzari, **Nazanin Hosseinkhan**, Ali Masoudi Nejad. Block alignment: New representation and comparison method to study evolution of genomes. *Genomics* (2018)
- Dehghanian Fariba, Hojati Zoreh, **Hosseinkhan Nazanin**, Mousavian Zaynab, Masoudi-Nejad Ali. Reconstruction of the genome-scale co-expression network for the hippo signaling pathway in colorectal cancer. *Computers in Biology and Medicine* (2018)
- **Nazanin Hosseinkhan**, Zaynab Mousavian, Ali Masoudi-Nejad. Comparison of gene co-expression networks in *Pseudomonas aeruginosa* and *Staphylococcus aureus* reveals conservation in some aspects of virulence. *Gene* 639 (2018) 1–10
- Kaveh Baghaei, **Nazanin Hosseinkhan**, Hamid Asadzadeh Aghdai and M. R. Zali. Investigation of a common gene expression signature in gastrointestinal cancers using systems biology approaches. *Molecular Biosystems*, DOI: 10.1039/c7mb00450h (2017)
- **Nazanin Hosseinkhan**, Peyman Zarrineh, Hassan Rokni-Zadeh, Mohammad Reza Ashouri, Ali Masoudi-Nejad. Co-expressional conservation in virulence and stress related genes of three Gamma Proteobacterial species: *Escherichia coli*, *Salmonella enterica* and *Pseudomonas aeruginosa*. *Molecular Biosystems*, DOI: 10.1039/C5MB00353A (2015)

- **Nazanin Hosseinkhan**, Peyman Zarrineh, Ali Masoudi-Nejad. Analysis of Genome-scale Expression Network in Four Major Bacterial Residents of Cystic Fibrosis Lung. *Current Genomics*, 15(5): 408-418 (2014)

- Peyman Zarrineh, Amina el Sanchez-Rodriguez, **Nazanin Hosseinkhan**, Zahra Narimani, Kathleen Marchal, Ali Masoudi-Nejad. Genome-Scale Co-Expression Network Comparison across *Escherichia coli* and *Salmonella enterica* Serovar Typhimurium Reveals Significant Conservation at the Regulon Level of Local Regulators Despite Their Dissimilar Lifestyles.” *PLoS one* 9(8): e102871(2014)

- Ahmad Reza Esmaeili Rastaghi, Fatemeh Nedaei, Hossein Nahrevanian, **Nazanin Hosseinkhan**. Genetic diversity and effect of natural selection at apical membrane antigen-1 (AMA-1) among Iranian *Plasmodium vivax* isolates. *Folia parasitologica* 61(5): 385-393(2014)

- Nahid Arjmand Kermani, Fereshteh Jafari, Ehsan Nazemolhoseini Mojarad, **Nazanin Hosseinkhan**, Mohammad Reza Zali. Prevalence and associated Factors of Persistent Diarrhea in Iranian Children Admitted to a Pediatric Hospital. *Eastern Mediterranean Journal*, Vol 16, No 8 (2010)

- Fereshteh Eftekhari, **Nazanin Hosseinkhan**, Ahmad Asgharzadeh, Ahmad Tabatabaie. Genetic Profiling of *Pseudomonas aeruginosa* Isolates from Iranian Patients with Cystic Fibrosis Using RAPD-PCR and PFGE. *Journal of Basic Medical Sciences*, Vol 12, No 3-4 (2009)

- Naghmeh Jafary Nia, Nahid Arjmand Kermani, Anahita Dezfulian, **Nazanin Hosseinkhan**, Babak Noori-Nayer, Fereidoun Derakhshan, Fereshteh Jafary, Sven Lofdahi, Mohammad Reza Zali. Evaluation of Diarrhea in Iranian Children Under Five Years of Age. *Faculty of Nursing of Midwifery Quarter*; 16(57): 17-25 (2007)

- M Rostami Nejad, **N Hoseinkhan**, E Nazemalhosseini, K Cheraghipour, E Abdinia, MR Zali. An analysis of hydatid cyst surgeries in patients referred to hospitals in Khorram-Abad, Lorestan during 2002-06. *Iranian Journal of Parasitology*, 2(3): p. 29-33 (2007)

- PCR Fingerprinting of *Pseudomonas aeruginosa* isolates from Iranian Patients with Cystic Fibrosis. *International Union of Microbiological Society San Francisco, California, USA*, July 23-28(2005) (poster presentation)