Yazdan Asgari

Bioinformatician

Systems Biology

CONTACT

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Paris, France

https://yazdan59.github.io

TECHNICAL SKILLS

- Bioinformatics, Systems Biology
- OMIC Data Analysis (GWAS, RNAseq, Methylation, eQTL, etc.)
- Biological Network Analysis
- Pipeline Development
- Programming (R, Bash, Shiny, Python, MATLAB, Docker, GitHub)
- High-performance computing, Linux

LANGUES

- English : Advance (C1)
- French : Intermediate (B2)
- Persian : Native language

PERSONAL INTERESTS

- Football
- Music
- Philosophy of Science
- Reading

A scientist interested in teaching his experience in different bioinformatics topics to students. Also interested in research to increase our knowledge about complex diseases and be useful to patients around the world.

Professional Experience

INSERM U1018 - Villejuif, France

Research Engineer (2023 – Present)

- Leading computational analyses on genetic and epigenetic factors in cancer.
- Developing bioinformatics pipelines for multi-omics data integration (GWAS, RNA-seq, methylation, eQTL, WES).
- Investigating the impact of night shift work on breast cancer risk through DNA methylation changes.
- Exploring mutational signatures in lung cancer patients using whole-exome sequencing (WES) and epidemiological data.

Institute Gustave Roussy - Villejuif, France

Postdoctoral Researcher (2021 – 2023)

- Developed novel statistical and computational frameworks for identifying genetic risk factors in cancer.
- Designed a cross-phenotype gene-set analysis pipeline (GCPBayes), facilitating pleiotropy detection across traits.
- Supervised M1 and M2 students on bioinformatics and statistical genomics projects.
- Presented research at international conferences and contributed to high-impact publications.

Tehran University of Medical Sciences - Tehran, Iran

Assistant Professor (2017 – 2021)

- Led multiple systems biology projects focused on cancer and complex diseases.
- Supervised and mentored M.Sc. and Ph.D. students in bioinformatics and computational biology.
- Developed and taught graduate-level courses in systems biology, bioinformatics, and statistical modeling.
- Conducted research on metabolic reprogramming in cancer and systems-level biomarker discovery.

Institute for Research in Fundamental Sciences (IPM) - Tehran, Iran

Postdoctoral Researcher (2015 – 2017)

- Investigated candidate biomarkers for lung and prostate cancers using integrative omics approaches.
- Developed computational methods for metabolic network analysis and flux variability assessments.

Education

- **Ph.D. in Bioinformatics,** University of Tehran, Iran / Germany (2009 – 2014)
- **M.Sc. in Physical Chemistry,** Khaje Nasir Toosi University of Technology, Iran (2002 – 2004)
- **B.Sc. in Chemistry,** University of Kashan, Iran (1998 – 2002)

Research Interests

- **Systems Biology & Multi-Omics Data Integration**
- **Network Biology & Functional Genomics**
- **Computational Modeling of Complex Diseases**
- **Genetic Epidemiology**

Publication

First/co-first Author/Major Contribution

1. **Y. Asgari**, P-E. Sugier, S.H. Park, M. Karimi, A. Gonzalez, B. Liquet, T. Truong. From GWAS to Pathways: Exploring Pleiotropy Between Thyroid Traits and Breast Cancer Risk. (*ready to submit*), **2026**
2. E. Lucotte*, **Y. Asgari***, P.E. Sugier, M. Karimi, C. Domenighetti, F. Lesueur, A. Boland-Augé, E. Ostroumova, F. de Vathaire, M. Zidane, P. Guénel, J.F. Deleuze, M.C. Boutron-Ruault, G. Severi, B. Liquet, T. Truong, Investigation of common genetic risk factors between thyroid disorders and breast cancer, *Human Molecular Genetics*, 33(1), 38-47, **2024**
3. **Y. Asgari,** P.E. Sugier, T. Baghfalaki, E. Lucotte, M. Karimi, M. Sedki, A. Ngo, B. Liquet, T. Truong, GCPBayes Pipeline: a tool for exploring pleiotropy at gene-level, *NAR Genomics and Bioinformatics*, 5(3), lqad065, **2023**
4. T. Baghfalaki, P.E. Sugier, **Y. Asgari**, T. Truong, B.Liquet, GCPBayes: An R package for studying Cross-Phenotype Genetic Associations with Group-level Bayesian Meta-Analysis, *R Journal*, 15(1), 122-141, **2023**
5. **Y. Asgari**, P. Khosravi, Flux Variability Analysis reveals a tragedy of commons in cancer cells, *SN Applied Sciences*, 2, 1966, **2020**
6. **Y. Asgari**, J. Ik-Tsen Heng, N. Lovell, A. Forrest, H. Alinejad-Rokny, Evidence for enhancer noncoding RNAs (enhancer-ncRNAs) with gene regulatory functions relevant to neurodevelopmental disorders, https://www.biorxiv.org/content/10.1101/2020.05.16.087395v1, **2020**
7. **Y. Asgari**, P. Khosravi, Z. Zabihinpour, M. Habibi, Exploring candidate biomarkers for lung and prostate cancers using gene expression and flux variability analysis, *Integrative Biology*, 10(113), 113-120, **2018**
8. **Y. Asgari**, Z. Zabihinpour, A. Masoudi-Nejad, SCAN-Toolbox: Structural COBRA Add-oN (SCAN) for Analysing Large Metabolic Networks, *Current Bioinformatics*, 13(1), 100-107, **2018**
9. **Y. Asgari**, Z. Zabihinpour, A. Salehzadeh-Yazdi, F. Schreiber, A. Masoudi-Nejad, Alterations in cancer cells metabolism: the Warburg effect and metabolic adaptation, *Genomics*, 105, 275-281, **2015**
10. **Y. Asgari**, A. Salehzadeh-Yazdi, F. Schreiber, A. Masoudi-Nejad, Controllability in Cancer Metabolic Networks According to Drug Targets as Driver Nodes, *PloS One*, 8(11), e79397, **2013**
11. **Y. Asgari**, M. Ghaemi, M.G. Mahjani, Cellular Automata Simulation of a Bistable Reaction-Diffusion System: Microsocopic and Macroscopic Approaches, *Iran. J. Chem. & Chem. Eng*, 30(1), 143-150, **2011**
12. **Y. Asgari**, M. Ghaemi, M.G. Mahjani, Pattern Formation of the FitzHugh-Nagumo Model: Cellular Automata Approach, *Iran. J. Chem. & Chem. Eng*, 30(1), 135-142, **2011**
13. **Y. Asgari**, M. Ghaemi, Obtaining the critical point and shift exponent for the anisotropic two-layer Ising and Potts models: Cellular Automata approach, *Physica A*, 387(8-9), 1937-1946, **2008**
14. **Y. Asgari**, M. Ghaemi, Constructing the critical curve for the two-layer Potts models using Cellular Automata, *J. Theor. Comp. Chem*, 5(2), 141-150, **2006**
15. **Y. Asgari**, M. Ghaemi, M.G. Mahjani, Calculation of the critical point for the two-layer Ising and Potts models using Cellular Automata, *Lect. Notes in Comp. Sci*, 3305, 709-718, **2004**

Main Supervisor of the study/Last Author

1. M. Rastegarpanah, B. Negahdari, **Y. Asgari,** M. Mazloomi, K. Azadmanesh, Cell line engineering for enhanced measles virus production with sphingosine kinase 1 gene overexpression, *Virus Genes*, **2025**
2. A. Mohammadloo, **Y. Asgari**, A. Esmaeili-Bandboni, M.A. Mazloomi, S.F. Ghasemi, S. Ameri, S.R. Miri, S. Hamzelou, H.R. Mahmoudi, Z. Veisi-Malekshahi, The Potential of Circulating miR-193b, miR-146b-3p and miR-483-3p as Noninvasive Biomarkers in Cutaneous Melanoma Patients, *Molecular Biotechnology*, 66, 2830-2840, **2024**
3. S. Nekoeian, S. Ferdowsian, **Y. Asgari**, Z. Azizi, Identification of Hub Genes Associated with Resistance to Prednisolone in Acute Lymphoblastic Leukemia Based on Weighted Gene Co-expression Network Analysis, *Molecular Biotechnology*, 1-10, **2023**
4. M.N.K. Masjedi, **Y. Asgari**, E. Sadroddiny, Differential expression analysis in epithelial ovarian cancer using functional genomics and integrated bioinformatics approaches, *Informatics in Medicine Unlocked*, 101172, **2023**

5. S. Nekoeian, T. Rostami, A. Norouzy, S. Hussein, G. Tavoosidana, B. Chahardouli, S. Rostami, **Y. Asgari**, Z. Azizi, Identification of lncRNAs associated with the progression of acute lymphoblastic leukemia using a competing endogenous RNAs network, *Oncology Research*, 30(6), **2022**
6. M. Rastegarpanah, K. Azadmanesh, B. Negahdari, **Y. Asgari**, M. Mazloomi, Screening of candidate genes associated with high titer production of oncolytic measles virus based on systems biology approach, *Virus Genes*, 58(4), 270-283, **2022**
7. B. Hassani, H. Mollanoori, F. Pouresmaeili, **Y. Asgari**, S. Ghafouri-Fard, Constructing MRNA, miRNA, circRNA and lncRNA regulatory network by analysis of microarray data in breast cancer, *Gene Reports,* 26, 101510, **2022**
8. M. Ghaemi, M. Shojafar, Z. Zabihinpour, **Y. Asgari**, On the possibility of oscillating in the Ebola virus dynamics and investigating the effect of the lifetime of T lymphocytes, *Plos one*, 17(3), e0265065, **2022**
9. N. Beheshtizadeh, **Y. Asgari**, N. Nasiri, A. Farzin, M. Ghorbani, N. Lotfibakhshaiesh, M. Azami, A network analysis of angiogenesis/osteogenesis-related growth factors in bone tissue engineering based on in-vitro and in-vivo data: a systems biology approach, *Tissue and Cell*, 72, 101553, **2021**
10. B. Hassani, M. Taheri, **Y. Asgari**, A. Zekri, A. Sattari, S. Ghafouri-Fard, F. Pouresmaeili, Expression analysis of long non-coding RNAs related with FOXM1, GATA3, FOXA1 and ESR1 in breast tissues, *Frontiers in Oncology*, 11, 671418, **2021**
11. S. Khodaee, **Y. Asgari**, M. Totochi, M.H. Karimi-Jafari, iMM1860: A new reconstruction of mouse genome-scale metabolic model, *Scientific Reports*, 10(1), 1-13, **2020**
12. M. Gholizadeh, J. Fayazi, **Y. Asgari**, H. Zali, L. Kaderali, Reconstruction and Analysis of Cattle Metabolic Networks in Normal and Acidosis Rumen Tissue, *Animals*, 10(3), 469, **2020**
13. J. Fayazi, M. Gholizadeh, H. Zali, **Y. Asgari**, Transcriptomic Changes in the Rumen Epithelium in Beef Cattle after Induction of Acidosis, *Archives of Razi Institute*, 75(1), 109-121, **2020**
14. F. Nikmanesh, S. Sarhadi, M. Dadashpour, **Y. Asgari**, N. Zarghami, Omics integration analysis unravel the landscape of driving mechanisms of colorectal cancer, *Asian Pacific Journal of Cancer Prevention*, 21(12), 3539, **2020**
15. H. Rakhsh-Khorshid, H. Samimi, S. Torabi, S.M. Sajjadi-Jazi, H. Samadi, F. Ghafouri, **Y. Asgari**, V. Haghpanah, Network analysis reveals essential proteins that regulate sodium-iodide symporter expression in anaplastic thyroid carcinoma, *Scientific Reports*, 10, 21440, **2020**
16. M. Ghorbani,F. Pourjafar, M. Saffari, **Y. Asgari**, Paclitaxel resistance resulted in a stem-like state in triple-negative breast cancer: A systems biology approach, *Meta Gene*, 26, 100800, **2020**
17. M. Gholizadeh, J. Fayazi, **Y. Asgari**, H. Zali, Reconstruction and topological analysis of metabolic network in the bovine rumen tissue, *Veterinary Researches & Biological Products*, 125, 106-117, **2019, (in Persian)**
18. M. Taheri, K. Nouri, **Y. Asgari**, Z. Zabihinpour, M. Sadeghi, The Significance of Noise in the Evolution of Negative and Positive Cooperativity in Protein Complexes, *MATCH Communications in Mathematical and in Computer Chemistry*, 81(1), 177-192, **2019**
19. G. Shafiee, **Y. Asgari**, A. Soltani, B. Larijani, R. Heshmat, Identification of candidate genes and proteins in aging skeletal muscle (sarcopenia) using gene expression and structural analysis, *PeerJ*, 5(6), e5239, **2018**
20. S. Ghorbani, M. Tahmoores pur, A. Masoudi-Nejad, M. Nasiri, **Y. Asgari**, Reconstruction and topology analysis of metabolic network involved in Bos Taurus milk production, *Animal Sciences Journal*, 110, 167-180, **2016, (in Persian)**
21. A. Masoudi-Nejad, **Y. Asgari**, Metabolic Cancer Biology: Structural-based analysis of cancer as a metabolic disease, new sights and opportunities for disease treatment, *Seminars in Cancer Biology*, 30, 21-29, **2015**
22. S. Ghorbani, M. Tahmoores pur, A. Masoudi-Nejad, M. Nasiri, **Y. Asgari**, Analysis of the enzyme network involved in cattle milk production using graph theory, *Molecular Biology Research Communications*, 4(2), 93-103, **2015**
23. M. Jalili, A. Salehzadeh-Yazdi, **Y. Asgari**, S. Arab, M. Yaghmaie, A. Ghavamzadeh, and K. Alimoghaddam, CentiServer: A Comprehensive Resource, Web-Based Application and R Package for Centrality Analysis, *Plos One*, 10(11), e0143111, **2015**
24. M. Ghaemi, Z. Zabihinpour, **Y. Asgari**, Computer simulation study of the Levy flight process, *Physica A*, 388, 1509-1514, **2009**

25. M. Ghaemi, N. Rezaei-Ghaleh, **Y. Asgari**, Lattice gas automata simulation of 2-D site percolation diffusion: Configuration dependence of the theoretically-expected crossover of diffusion regime, *Lect. Notes in Comp. Sci*, 5191, 274-281, **2008**

Other

1. B. Rius-Sansalvador, …, **Y. Asgari**, …, H. Noh, Integrative Metabolomic and Genomic Analysis Identifies a Polyamine Metabolite Acisoga as Candidate Metabolic Marker in a Colorectal Cancer Screening Cohort, (*submitted*), **2026**
2. S.H. Park, **Y. Asgari**, P-E. Sugier, M. Karimi, et. al., Large-scale association analysis identified novel differentiated thyroid carcinoma risk loci by integrating transcriptome and proteome, (*revision*), **2026**
3. K.S. Hafeez, …, **Y. Asgari**, …, G. Matullo, Integrating Polygenic and Methylation Risk Scores for Predicting Pleural Mesothelioma Susceptibility, *International Journal of Cancer*, (*accepted*), **2026**
4. P.E. Sugier, **Y. Asgari**, M. Sedki, T. Truong, B. Liquet, Meta-analysis models with group structure for pleiotropy detection at gene and variant level using summary statistics from multiple datasets, *Biostatistics*, 26, 1, kxaf037, **2025**
5. S.H. Park, P.E. Sugier, **Y. Asgari**, M. Karimi, et. al., Reproductive factors, sex hormone levels and differentiated thyroid cancer risk: A Mendelian Randomization study, *Thyroid*, 35(4), 433-443, **2025**
6. M.N.K. Masjedi, E. Sadroddiny, J. Ai, S. Balalaie, **Y. Asgari**, Targeted expression of a designed fusion protein containing BMP2 into the lumen of exosomes, *Biochimica et Biophysica Acta*, 1868(1), 130505, **2024**
7. N. Mohammadi, F. Nouri, **Y. Asgari**, H. Moradi-sardareh, M. Sharafi-Kolkeshvandi, H. Nemati, G.A. Kardar, The immunostimulant effects of the rice ragged stunt virus genome on the growth and metastasis of breast cancer in mouse model, *International Immunopharmacology*, 125, 111101, **2023**
8. Z. Yousefi-Najafabadi, Z. Mehmandoostli, **Y. Asgari**, S. Kaboli, R. Falak, G.A. Kardar, Reversing T Cell Exhaustion by Converting Membrane PD-1 to Its Soluble form in Jurkat Cells; Applying The CRISPR/Cas9 Exon Skipping Strategy, *Cell Journal (Yakhteh)*, 25(9), 633-644, **2023**
9. S. Mohammadi, M. Zahmatkesh, **Y. Asgari**, S. Aminyavari, G. Hassanzadeh, Evaluation of hippocampal arylalkylamine N-acetyltransferase activity in amyloid β neurotoxicity, *Journal of Molecular Endocrinology*, 71(2), e220161, **2023**
10. S.P. Rostami, N.M. Dehkordi, **Y. Asgari**, M.R. Bolouri, N. Shayanfar, R. Falak, G.A. Kardar, Competitive Effect of Overexpressed C-terminal of Snail-1 (CSnail) in Control of the Growth and Metastasis of Melanoma Cells, *Recent patents on anti-cancer drug discovery*, 19(3), 342-353, **2023**
11. S. Ahmadi, H. Teimori, M.H. Modarressi, **Y. Asgari**, M. Saffari, The effect of autophagy-related MicroRNAs on FIP200, ATG13 and HIF1A expression levels in breast cancer patients, *Human Gene*, 35, 201145, **2023**
12. A. Etemadi, M.H. Karimi-Jafari, B. Negahdari, **Y. Asgari**, M.R. Khorramizadeh, F. Mohammadian, M. Mazloomi, Design of a dual-function agent by fusing a designed anti-VEGF-A binder and CPG-2 enzyme, *Journal of Biomolecular Structure and Dynamics*, 1-8, **2022**
13. A. Etemadi, H.R. Moradi, F. Mohammadian, M.H. Karimi-Jafari, B. Negahdari, **Y. Asgari**, M. Mazloomi, Binder design for targeting SARS-CoV-2 spike protein: An in-silico perspective, *Gene Reports*, 26, 101452, **2022**
14. R. Heidari, M. Akbariqomi, **Y. Asgari**, D. Ebrahimi, H. Alinejad-Rokny, A systematic review of long non-coding RNAs with a potential role in Breast Cancer, *Mutation Research/Reviews in Mutation Research*, 787, 108375, **2021**
15. A. Nikkholgh, S.A. Ebrahimi, E. Bakhshi, M.R. Zarrindast, **Y. Asgari**, A. Torkaman-Boutorabi, New Biomarkers Based on Smoking-Related Phenotypes for Smoking Cessation Outcomes of Nicotine Replacement Therapy: A Prospective Study, *Basic and Clinical Neuroscience,* 12(5), 639-650, **2021**
16. S. Aghaei Gharehbolagh, L. Mafakher, Z. Salehi, **Y. Asgari**, S.J. Hashemi, S. Mahmoudi, M. Nasimi, S. Rezaie, Unveiling the structure of GPI-anchored protein of Malassezia globosa and its pathogenic role in pityriasis versicolor, *Journal of Molecular Modeling*, 27, 1-12, **2021**
17. S. Aghaei Gharehbolagh, S. Mahmoudi, **Y. Asgari**, H. Rahimi, S. Agha Kuchak Afshari, F. Noorbakhsh, S. Rezaie, Thioredoxin is a potential pathogenesis attribute of Malassezia globosa and Malassezia sympodialis in pityriasis versicolor, *Gene Reports*, 17, 100468, **2019**

18. S. Aghaei Gharehbolagh, P. Kordbacheh, S.J. Hashemi, R. Daie Ghazvini, **Y. Asgari**, S. Agha Kuchak Afshari, S.M. Seyedmousavi, S. Rezaie, MGL_3741 gene contributes to pathogenicity of Malassezia globosa in pityriasis versicolo, *Mycoses*, 61(12), 938-944, **2018**
19. A. Salehzadeh-Yazdi, **Y. Asgari**, A.A. Sabouri, A. Masoudi-Nejad, Computational analysis of reciprocal association of metabolism and epigenetics in the budding yeast: a genome-scale metabolic model (GSMM) approach, *PloS One*, 9(11), e111686, **2014**
20. P. Khosravi, V. H. Gazestani, **Y. Asgari**, B. Law, M. Sadeghi, B. Goliaei, Network-based approach reveals Y chromosome influences prostate cancer susceptibility, *Computers in Biology and Medicine*, 54, 24-31, **2014**

Book Chapter

A. Masoudi-Nejad, A. Salehzadeh-Yazdi, S. Akbari, **Y. Asgari**, Integration of Metabolic Knowledge for Genome-scale Metabolic Reconstruction, Invited chapter in "*Biological Knowledge Discovery Handbook: Preprocessing, Mining and Post processing of Biological Data*", English, Publisher: John Wiley & Sons, Inc, **2014**

Invited Talks & Conferences

Talk

1. DNA Methylation and Breast Cancer Risk: An Epigenetic Age Study within the French E3N-Generations Cohort, Statgen Annual Meeting, Paris France, 9 Dec, **2025**
2. From GWAS to Pathways: Exploring Pleiotropy Between Thyroid Traits and Breast Cancer risk, *Annuelle de GOLD, Final meeting*, Marseille, France, 13-14 nov., **2025**
3. A pipeline for exploring gene-level pleiotropy of GWAS data, *Conference on Computational Intelligence Methods for Bioinformatics & Biostatistics (CIBB 2023)*, Padova, Italy, 6-8 Sep, **2023**
4. Developing a new pipeline for exploring pleiotropy of GWAS data at gene-level, *Intelligent Systems for Molecular Biology and European Conference on Computational Biology (ISMB/ECCB 2023)*, Lyon, France, 23-27 Jul, **2023**
5. GCPBayes Pipeline to explore pleiotropy at gene-level, *Annual Meeting Proceedings Talk at GOLD Meeting*, Paris, France, **2022**
6. MATLAB Programming, *1st Summer School in Bioinformatics: Gene Expression Analysis*, Institute for Research in Fundamental Sciences, Tehran, Iran, **2015**
7. Metabolomic Applications as Biomarkers in Oncology, *Iranian Cancer Genetics Congress*, Shariati Hospital, Tehran, Iran, **2013**
8. Application of Cellular Automata in pattern formation, *1st Iranian Bioinformatics Conference*, Tehran, Iran, **2003**

Poster

1. Does epigenetic-based age acceleration mediate the association between early life socioeconomic position and breast cancer onset? Findings from the E3N cohort study, *le congrès de la Société française de la DOHAD*, Lille, France, 11-13 Dec, **2025**
2. Exploring common mechanisms between thyroid traits and breast cancer using GWAS and eQTL data, *Workshop on Massive Genomic Data*, Bordeaux, France, **2024**

3. Exploring common genetic risk factors between breast cancer and thyroid cancer using GCPBayes Pipeline, *International symposium on Human Genomics (ISHG 2023)*, Paris, France, 20-22 Sep, **2023**
4. Using GCPBayes to explore pleiotropy at gene-level between breast and ovarian cancers based on GWAS summary statistics data, *European Human Genetics Conference (ESHG 2022)*, Vienna, Austria, 11-14 Jun, **2022**
5. Corresponding states theory and thermodynamic properties of alkali metals, *9th Iranian Physical Chemistry Seminar*, Rasht, Zibakenar, Iran, **2006**
6. Calculation of the critical point for the two-layer Ising model using Cellular Automata, *7th Iranian Physical Chemistry Seminar*, Isfahan University of Technology, Isfahan, Iran, **2005**
7. Simulation of FitzHugh-Nagumo models as a reaction-diffusion system using Cellular Automata, *7th Iranian Physical Chemistry Seminar*, Isfahan University of Technology, Isfahan, Iran, **2005**
8. Cellular Automata and reaction-diffusion systems, *14th Iranian Chemistry and Chemical Engineering Congress*, Tehran, Iran, **2004**

Research Funding & Grants

- **Collaborator,** Exploring eRNAs involved in Psoriasis Disease (Iranian National Research Institute, 2020 – 2021)
- **Principal Investigator,** Study of new MicroRNAs as biomarkers in response to Rituximab for Multiple Sclerosis patients using Systems Biology approach (Tehran University of Medical Sciences, 2019 – 2020)
- **Principal Investigator,** Study of cell death induction by disrupting cell-cycle genes investigation in lapatinib-resistant BT474 cell line (Tehran University of Medical Sciences, 2019 – 2020)
- **Principal Investigator,** Metabolic Network Reconstruction for Rumen Tissue using RNAseq Data (Tehran University of Medical Sciences, 2018 – 2019)
- **Principal Investigator,** Identification of MicroRNA biomarkers for pancreatic cancer diagnosis using Systems Biology approach (Tehran University of Medical Sciences, 2018 – 2019)
- **Collaborator,** Stochastic Simulation of Gene Expression with Delay-Differential Equations (Institute for Research in Fundamental Sciences (IPM) - Tehran, Iran, 2017 – 2018)

Supervision & Mentoring

M.Sc. & Ph.D. Students Supervised (France & Iran)

1. **Eva Jaber (M2, Paris-Saclay, 2024):** Genetic risk factors in Parkinson's and cancer
2. **Donna-Lee Bowie (M2, Bordeaux, 2022):** Network enrichment analysis in bioinformatics
3. **Thomas Clerc (M1, École d'ingénieurs du numérique, 2021):** LocusZoom Webtool
4. **S. Nekoeian (Ph.D., Tehran University of Medical Sciences, 2017-2023):** lncRNA-based biomarkers in leukemia
5. **M. Rastegarpanah (Ph.D., Tehran University of Medical Sciences, 2018-2022):** Engineering the MRC-5 cell line to optimize measles virus production via stable overexpression of sphingosine kinase 1
6. **M. Ahmadi (M.Sc., Tehran University of Medical Sciences, 2019-2022):** Comparison of signaling networks of MIN6 cell line with murine pancreatic beta cells for optimal use in diabetes research
7. **Y. Abaukaka (M.Sc., Tehran University of Medical Sciences, 2019-2022):** CHO cell line engineering for increased production of therapeutic recombinant proteins
8. **B. Hasani (Ph.D., Beheshti University, 2018-2021):** Construction and analysis of RNA, miRNA, lncRNA and TF regulatory networks to identify key genes associated with breast cancer

9. **F. Pourjafar (M.Sc., Tehran University of Medical Sciences, 2018-2021):** Study of cell death induction via double strand break pathways in lapatinib-resistant BT474 cell line
10. **E. Firouzi Majd (M.Sc., Tehran University of Medical Sciences, 2018-2021):** Effect of lapatinib resistance on the expression of genes involved in the mitotic phase of the cell cycle in the BT474 cell line
11. **M. Ghorbani (M.Sc., Tehran University of Medical Sciences, 2018-2021):** Rational design of combination therapy for lapatinib-resistant luminal B breast cancer cells using a systems biology approach
12. **A. Amirfallah (Pharm.D., Tehran University of Medical Sciences, 2018-2021):** Exploring the molecular mechanisms of three proteins involved in cancer
13. **S. Khodaei (Ph.D., Tehran University, 2017-2020):** Metabolic explanations of cellular states on the Waddington landscape
14. **S. Ghods (Pharm.D., Tehran University of Medical Sciences, 2017-2020):** Network-based pharmacological study of ginger in the treatment of dysmenorrhea and its effect on inflammatory enzymes
15. **M. Abdi (M.Sc., Tehran University of Medical Sciences, 2017-2020):** Identification of MicroRNA biomarkers for pancreatic cancer diagnosis using a systems biology approach
16. **H. Fatima (M.Sc., Tehran University of Medical Sciences, 2017-2020):** Obtaining single-chain anti-IgE antibodies using synthetic antibody libraries and phage display technology
17. **M. Yazdani (M.Sc., NIGEB, 2017-2020):** Reconstruction and analysis of a genome-scale metabolic model of *Penicillium compactum*
18. **S.R. Mohammadi (M.Sc., Tehran University of Medical Sciences, 2018-2020):** Cloning and expression of *Aspergillus niger* prolyl endopeptidase (AN-PEP) in *E. coli*
19. **F. Nikmanesh (M.Sc., Tabriz University of Medical Sciences, 2017-2019):** Comparison of biochemical pathways between colorectal cancer patients and healthy controls via a systems biology approach
20. **M. Gholizadeh (Ph.D., Agricultural Sciences and Natural Resources University of Khuzestan, 2016-2029):** Reconstruction of the metabolic network of ruminal tissue in *Bos taurus*
21. **M. Jalili (Ph.D., Tehran University of Medical Sciences, 2014-2016):** Cancer systems biology and genotype-phenotype analysis of the reconstructed network with disease-related and biological approaches in medicine

Teaching Experiences

- **Computational and Systems Biology** (for Ph.D. students, Tehran University of Medical Sciences, 2016-2021)
- **Bioinformatics** (for M.Sc. and Ph.D. students, Tehran University of Medical Sciences, 2016-2021)
- **Protein Engineering** (for Ph.D. students, Tehran University of Medical Sciences, 2016-2021)
- **Medical Informatics** (for M.Sc. and Ph.D. students, Tehran University of Medical Sciences, 2016-2021)
- **Research Methods** (for M.Sc. and Ph.D. students, Tehran University of Medical Sciences, 2019-2020)
- **Applied Statistics** (for M.Sc. and Ph.D. students, Tehran University of Medical Sciences, 2016-2021)
- **Analysis of Metabolic Networks** (for Ph.D. students, University of Tehran, 2015-2016)

Professional Activities

- **Reviewing Roles:** Bioinformatics-Oxford, BioMed Research International, Bioprocess and Biosystems Engineering, BMC Systems Biology, Cancer Management and Research, Computational and Structural Biotechnology, Future Oncology, IEEE Transactions on Neural Networks and Learning Systems, International Journal of Hematology-Oncology and Stem Cell Research, Iranian Journal of Biotechnology, Iranian Journal of Cancer Prevention, Oncology Letters, Oncotarget, OncoTargets and Therapy, Oxidative Medicine and Cellular Longevity, Physica A

- CEO at Iranian Bioinformatics Society (IBIS), Tehran, Iran (2018-2021)
- Deputy of education of the medical biotechnology group, Tehran University of Medical Sciences, 2017-2021