




Isfahan University of medical sciences

Curriculum Vitae (CV)

First Name: Fahimeh

Last Name: Ghasemi

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|  | Isfahan University of medical sciences, HezarJerib.st. | |
| | Department | Department of Bioinformatics and System Biology, |
| | Faculty | School of Advanced Technologies in Medicine |
| | E-mail | f_ghasemi@amt.mui.ac.ir |
| | Homepage | https://profiles.mui.ac.ir/fahimeh-ghasemi |
| | Cell Phone | +98 913 1075 975 |
| | Work Phone | +98 313 792 3865 |
| | Position Title | Assistant professor |

EDUCATION AND TRAINING

| INSTITUTION AND LOCATION | Start Date | Completion Date | FIELD OF STUDY |
|--|------------|-----------------|------------------------|
| Bachelor of Science , Department of Bio-electrics, School of Engineering, Isfahan University | 2005 | 2009 | Biomedical Engineering |
| Master of Science , Department of Bio-electrics, School of Electrical Engineering, Sharif University of Technology | 2010 | 2011 | Bio-electrics |
| Doctoral Researches , Department of Bio-electrics and Biomedical Engineering, School of Advanced Technologies in Medicine, Isfahan University of Medical Sciences | 2012 | 2017 | Bio-electrics |

RESEARCH ITEREST

- (1) Deep learning
- (2) Pattern Recognition
- (3) Statistical Modeling
- (4) Bioinformatics (especially computational drug design)
- (5) QSAR studies



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INTERNATIONAL and NATIONAL COLLABORATION

- (1) International collaboration: Bioinformatics and High-Performance Computing Reserch Group (BIO-HPC),
Computer Engineering Department, Universidad Católica de Murcia (UCAM), E30107 Murcia, Spain
- (2) National collaboration:
 - (2-1) Biotechnology Research Center, Pasteur Institute of Iran, Tehran, Iran
 - (2-2) Pharmaceutical Biomaterials department, Pharmacy school, Tehran university of medical university, Isfahan, Iran
 - (2-3) Chemistry, Isfahan university, Isfahan, Iran

HONORS AND AWARDS

- (3) National Institute for Medical Research Development (NIMAD), "Molecular dynamic simulation for all compounds and targets", 2020, (PI)
- (4) Ministry of Health, "Extracting optimum molecular descriptors to design de-novo compounds using deep learning algorithm", 2019, (PI).
- (5) National Institute Form Medical Research Development (NIMAD), "Theoretical studies on molecules affecting some biological targets responsible for Alzheimer disease", 2017, (Co-I).
- (6) Isfahan University of Medical Sciences, "Identifying appropriate compounds of acetylcholinesterase (AChE) and HIV-1 reverse transcriptase using PCA-SVM", 2017, (PI).
- (7) Isfahan University of Medical Sciences, "Improving Biological Activity Prediction of Small Molecules Using Clustering Data and Genetic Algorithm ", 2017, (PI).
- (8) Isfahan University of Medical Sciences "Online single-channel seizure prediction, based on seizure genesis model of depth-EEG signals using extended Kalman filter", 2010, (PI).



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POSITIONS AND EMPLOYMENTS

- (1) Head of artificial intelligence department, Smart university of medical sciences, Tehran, Iran
- (2) Assistant Professor of Bioinformatics and systems biology department, School of Advanced Technologies in Medicine, Isfahan University of Medical Sciences, Isfahan, Iran.
- (3) Faculty member of Bioinformatics research center, School of Pharmacy and Pharmaceutical Sciences, Isfahan University of Medical Sciences, Isfahan, Iran.
- (4) Expert of biomedical engineering, Khorshid Hospital, Isfahan University of Medical Sciences, Isfahan, Iran.

PUBLICATIONS AND CONTRIBUTIONS

- (1) Roozbeh Siavash Moakhar, Carolina del Real Mata, Mahsa Jalali, Houda Shafique, Alireza Sanati, **Fahimeh Ghasemi**, ..., Sara Mahshid, "A Versatile Biomimic Nanotemplating Fluidic Assay for Multiplex Quantitative Monitoring of Viral Respiratory Infections and Immune Responses in Saliva and Blood", *Advanced science*, 2022, **IF: 17.52**
- (2) **F Ghasemi***, A Mehridehnavi, A Pérez-Garrido, H Pérez-Sánchez*, " Neural network and deep-learning algorithms used in QSAR studies: merits and drawbacks", *Drug Discovery Today*, 2018, **IF: 8.37**.
- (3) **F Ghasemi**, A Mehridehnavi, A Fassihi, Horacio P Sánchez*, "Deep neural network in QSAR studies using deep belief network", *Applied Soft Computing*, 2017, **IF: 8.26**.
- (4) F Motamedi, H Pérez-Sánchez, A Mehridehnavi, A Fassihi, **F Ghasemi***, "Accelerating Big Data Analysis through LASSO-Random Forest Algorithm in QSAR Studies", *Bioinformatics*, 2022, **IF:6.93**.
- (5) Z Vahabi*, R Amirfattahi, F Shayegh, **F Ghassemi**," Online epileptic seizure prediction using wavelet-based bi-phase correlation of electrical signals tomography", *International journal of neural systems*, 2015, **IF: 6.35**.
- (6) **F Ghasemi**, A Mehridehnavi*, A Fassihi, Horacio P Sánchez, "The role of different sampling methods in improving biological activity prediction using deep belief network" , *Journal of computational chemistry*, 2017, **IF: 3.9**.
- (7) R Arian, AM Hariri, Mehridehnavi, A Fassihi, **F Ghasemi***," Protein kinase inhibitors' classification using K-Nearest neighbor algorithm", *Computational Biology and Chemistry*, 2020, **IF: 3.74**.



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- (8) T Mostashari-Rad, R Arian, H Sadri, A Mehridehnavi, M Mokhtari, A Fassihi, **F Ghasemi***, "Study of CXCR4 chemokine receptor inhibitors using QSPR and molecular docking methodologies", *Journal of Theoretical and Computational Chemistry*, 2019, **IF: 2.4**.
- (9) F Nazem, **F Ghasemi**, A Fassihi, AM Dehnavi, "3D U-Net: A Voxel-based method in binding site prediction of protein structure", *Journal of Bioinformatics and Computational Biology*, 2021, **IF: 1.2**.
- (10) F Ghasemi, E Jafari*, M Mirzaei, K Mahnam, "Docking and Qsar Studies of Some Quinazolinone Derivatives as Possible Inhibitors of Thyrosine Kinase", *Turkish Computational and Theoretical Chemistry*, 2022, **IF:1.2**
- (11) JP Ceron-Carrasco, T Coronado-Parra, B Imbernón-Tudela, **F Ghasemi**, et al, " Application of Computational Drug Discovery Techniques for Designing New Drugs against Zika Virus", *Drug Designing*, 2016.
- (12) Farzaneh Shayegh, **Fahimeh Ghasemi***, Karim Ansarifard, Rasoul Amirfatahi, Saeed Sadri, "Online Single-Channel Seizure Prediction, Based on Seizure Genesis Model of Depth-EEG Signals Using Extended Kalman Filter", *Signal and Data Processing, JDSP*, 2018.
- (13) Juluri A., **F Ghasemi**, Pérez-Sánchez H., Murthy R., Murthy N., " IONTOPHORESIS - Captisol-Enabled(TM) Lipophilic Drug Complex Delivered Transdermally by Iontophoresis ", *Drug development and delivery*, 2015.

Oral presentations:

- (1) F Ghasemi, A Mehri, J Peña-García, et al, "Improving Activity Prediction of Adenosine A2B Receptor Antagonists by Nonlinear Models", *Drug development and delivery*, 2015.
- (2) Ghasemi F, Rabbani H*, "A statistical model for 3D segmentation of retinal choroid in optical coherence tomography images", in *Proc. SPIE 9038, Medical Imaging 2014: Biomedical Applications in Molecular, Structural, and Functional Imaging*, 90381W, San Diego, California, United States Feb. 15-20, 2014.
- (3) Roozbeh Siavash Moakhar, Carolina del Real Mata, Mahsa Jalali, Houda Shafique, Alireza Sanati, **Fahimeh Ghasemi**, ..., Sara Mahshid, A Versatile Biomimic Nanotemplating Fluidic Assay for Multiplex Quantitative Monitoring of Viral Respiratory Infections and Immune Responses in Saliva and Blood, 241st ECS Meeting, May 29-June 2, 2022



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PROFFESIONAL SERVICES

- (1) Programming via MATLAB, Python, C++
- (2) 3D QSAR software: Sybyl
- (3) Molecular Dynamic software: Amber
- (4) Introduction to computational drug design softwares: ChemDraw, HyperChem, AutoDock4 and Vina, Gaussian

TEACHING EXPERIENCE

2017-2022, PhD level courses: School of Advanced Technologies in Medicine, Isfahan University of Medical Sciences:

- 1- Statistical methods
- 2- Advance statistic methods
- 3- Python
- 4- Computational drug design
- 5- Mathematics in medicine

2017-2021, MSc. level courses: School of Advanced Technologies in Medicine, Isfahan University of Medical Sciences:

- 1- Biomedical signal processing
- 2- Neural Networks and deep learning
- 3- Signals and Systems
- 4- Modeling of Physiological Systems
- 5- Computational drug design
- 6- MATLAB

2010-2011, B.Sc. level courses, Islamic Azad University, Najafabad Branch:

- 1- Linear Integrated Circuits
- 2- Electronics
- 3- MATLAB
- 4- C++



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2009-2010, B.Sc. level courses, Islamic Azad University, Dolatabad Branch:

- 1- Electrical Installations
- 2- Electronic circuits

WORKSHOP AND TRAINING

- (1) Deputy Director of the Executive Committee, The first International congress in artificial intelligence of medical sciences, 2022.
- (2) Workshops:
 - (1-1) Smart university of medical sciences, AI in computational drug design, 2022
 - (1-2) School of Advanced Technologies in Medicine, Isfahan University of Medical Sciences, "Introduction to Software of computational drug design", 2017.
 - (1-3) Vice-Chancellery for Health, Isfahan University of Medical Sciences, "Pacemaker", 2010.
 - (1-4) School of Advanced Technologies in Medicine, Isfahan University of Medical Sciences, "Calibration of medical equipment", 2017.