

CV of Yasaman Moghadamnia

Email: ymoghad@udel.edu

Address line: 1121 Wharton Drive, Newark, DE, 19711

[Google Scholar](#)

Research Interests

- Drug transport of antiretroviral drugs in HIV-infected tissues and anatomical reservoirs such as the human lymph node
- Computer vision and designing automated image segmentation algorithms in biomedical imaging

Education

1. PhD candidate in bioinformatics and computational biology at University of Delaware, currently working under the supervisions of Dr. Ryan Zurakowski (primary PI) and Dr. Jason Gleghorn (secondary PI), September 2020-current.
2. M.A. in molecular biophysics at Johns Hopkins University, Supervisor: Dr. Margaret Johnson, January 2018- July 2020.
3. M.Sc. in Condensed Matter Physics, Alzahra University, Tehran, Iran. September 2013 - September 2015, Supervisors: Dr. A. Masoudi, Dr. M. Khorrami (Alzahra University) Thesis: The effects of environmental disturbances on Tumor growth.
4. B.Sc. in Physics, Alzahra University, Tehran, Iran September 2008 - June 2013
5. High School Diploma in Mathematical Physics, Hazrat-e-Maryam High school in Babolsar, Iran. Graduated *magna cum laude*, from September 2004- September 2007.

Research Experience

1. Joint Research assistant in Dr. Ryan Zurakowski and Dr. Jason Gleghorn at the Biomedical Engineering Department, University of Delaware, working on
 - a) spatial modeling of antiretroviral drugs in lymph node tissue, and
 - b) computer vision and image segmentation and deconvolution of the developing tissue of mouse lungs (August 2020-current)
2. Rotating graduate student in Dr. Jason Gleghorn's lab, university of Delaware – working on three-dimensional reconstruction of confocal microscopy images from vasculogenesis network in a tissue graft (September 2020-November 2020)
3. Graduate student in Dr. Margaret Johnson's lab, Johns Hopkins University, working on several projects including stochastic modeling of Ultrafast endocytosis and working on an implicit lipid model. (July 2018- February 2020)

4. Rotating student at Dr. Douglas Barrick's Lab, Johns Hopkins University, working on repeat proteins (topoisomerase V) and studying their thermodynamic stability under various conditions (April 2018-July 2018)
5. Rotating student at Dr. Margaret Johnson's Lab, Johns Hopkins University, Working on the Free Propagator reweighting method for modeling protein-protein interactions (Feb 2018-April 2018)
6. Working as an unofficial intern at The Pharmacology Laboratory of Babol University of Medical Sciences in the program of pharmacology and toxicology, working on several projects including designing new drug delivery methods for NSAIDs and extraction of medicinal plants' active material for alleviating adverse side effects of cancer therapy (September 2016-June 2017)
7. Master's student at the department of physics at Alzahra University. The master's Thesis was intended as a theoretical approach, using MATLAB programming and nonequilibrium statistical mechanical modeling techniques to study the effects of therapeutical procedures (such as chemotherapy) on a cancerous tumor growth model (September 2013 - September 2015)
8. Undergraduate Senior thesis under the title "Study of objects with out of frame's center of mass position" passed with a score of 19/20, supervisor: Dr. Amirhossein Fathollahi (September 2011 - September 2012)

Awards:

- 2022 NIH CBB T32 Predoctoral Training Grant Award, fellowship
- 2020 Graduate student travel award at university of Delaware, to attend the NCGR workshop in Differential gene analysis

Published Articles:

1. Moghadamnia, Yasaman, Sohrab Kazemi, Boshra Rezaee, Mehrdad Rafati-Rahimzadeh, Soheil Ebrahimpour, and Fahimeh Aghapour. "***New formulation of ibuprofen on absorption-rate: A comparative bioavailability study in healthy volunteers.***" Caspian journal of internal medicine 10, no. 2 (2019): 150.
2. Moghadamnia, Yasaman, Seydeh Narges Mousavi Kani, Maryam Ghasemi-Kasman, Mohamad Taghi Kazemi Kani, and Sohrab Kazemi. "***The anti-cancer effects of capparis spinosa hydroalcoholic extract.***" Avicenna journal of medical biotechnology 11, no. 1 (2019): 43.
3. Moghadamnia, Yasaman, and Dariush Moslemi. "***A stochastic mathematical model of avascular tumor growth patterns and its treatment by means of noises.***" Caspian journal of internal medicine 8, no. 4 (2017): 258.
4. Moslemi, Dariush, Akram Mohammadi Nokhandani, Mahsa Taheri Otaghsaraei, Yasaman Moghadamnia, Sohrab Kazemi, and Ali Akbar Moghadamnia. "***Management of***

- chemo/radiation-induced oral mucositis in patients with head and neck cancer: A review of the current literature.*" Radiotherapy and Oncology 120, no. 1 (2016): 13-20.
5. Babae, Neda, Dariush Moslemi, Mohammad Khalilpour, Fatemeh Vejdani, Yasaman Moghadamnia, Ali Bijani, Mahmoud Baradaran et al. "***Antioxidant capacity of calendula officinalis flowers extract and prevention of radiation induced oropharyngeal mucositis in patients with head and neck cancers: a randomized controlled clinical study.***" DARU Journal of Pharmaceutical Sciences 21, no. 1 (2013): 1-7.
 6. Babae, Neda, Atefeh Gholizadehpasha, Samir Zahedpasha, Yasaman Moghadamnia, Shiva Zamaninejad, and Ali Akbar Moghadamnia. "***Effects of milk curd on saliva secretion in healthy volunteer compared to baseline, 2% pilocarpine and equivalent pH adjusted acetic acid solutions.***" Indian Journal of Dental Research 22, no. 4 (2011): 547.
 7. Zargar-Nattaj, Seyed Sadegh, Pooya Tayyebi, Vahid Zangoori, Yasaman Moghadamnia, Hasan Roodgari, Seyed Gholamali Jorsaraei, and Ali Akbar Moghadamnia. "***The effect of Coriandrum sativum seed extract on the learning of newborn mice by electric shock: interaction with caffeine and diazepam.***" Psychology research and behavior management 4 (2011): 13.
 8. Moghadamnia, Ali Akbar, Vahid Zangoori, Seyed Sadegh Zargar-Nattaj, Pooya Tayebi, Yasaman Moghadamnia, and Seyed Gholam Ali Jorsaraei. "***Effect of breastfeeding piperine on the learning of offspring mice: interaction with caffeine and diazepam.***" Journal of experimental pharmacology 2 (2010): 111.

Selected Edited Manuscripts

1. "Transport properties of double layer Dirac material" (Doctoral Thesis, IPM, Iran, 2015)
2. Rezaee, Mohammad Mahdi, Sohrab Kazemi, Mohammad Taghi Kazemi, Saeed Gharooee, Elham Yazdani, Hoda Gharooee, Mohammad Reza Shiran, and Ali Akbar Moghadamnia. "***The effect of piperine on midazolam plasma concentration in healthy volunteers, a research on the CYP3A-involving metabolism.***" DARU Journal of Pharmaceutical Sciences 22, no. 1 (2014): 1-7.
3. Rafati-Rahimzadeh, Mehrdad, Mehravar Rafati-Rahimzadeh, Sohrab Kazemi, and Ali Akbar Moghadamnia. "***Current approaches of the management of mercury poisoning: need of the hour.***" DARU Journal of Pharmaceutical Sciences 22, no. 1 (2014): 1-10.
4. Heidarian, Esfandiar, Javad Saffari, and Effat Jafari-Dehkordi. "***Hepatoprotective action of Echinophora platyloba DC leaves against acute toxicity of acetaminophen in rats.***" Journal of dietary supplements 11, no. 1 (2014): 53-63.

Teaching Experience

1. Teaching Assistant, “BMEG340-Biomedical modeling and simulation” at University of Delaware (September 2021- December 2021)
2. Teaching Assistant, “Science 101—fundamentals of physics”, University of Delaware (September 2020- December 2020)
3. Teaching Assistant, “Introduction to scientific Computing”, Johns Hopkins University (January 2018- December 2019)
4. Quantum Mechanics tutor for undergraduate students (Alzahra University, Tehran, Iran)
5. Quantum mechanics Teaching Assistant for undergraduate students (Alzahra University, Tehran, Iran)
6. Special relativity Teaching Assistant for undergraduate students (Alzahra University, Tehran, Iran)
7. English language Teacher (courses 101, 102 and 103) at Safir Language Academy (Tehran, Iran)

Research mentorship experience

1. Mentor for undergraduate researcher Alexis Anderson, Gleghorn lab, the Biomedical Engineering department, University of Delaware, “Creation of algorithms for quantitation of ex vivo organ development over time”. Spring 2021-Spring 2022
2. Mentor for rotating graduate student Sobia Anam, Zurakowski lab, the Biomedical Engineering department, University of Delaware, “Creating a cohesive pipeline for meshing reconstructed 3D geometry of murine lymph nodes”, Winter session 2022.

Most Recent Talks and Poster Presentations

1. International Dynamics and Evolution of human viruses conference, UCSD, June 2022, presented a talk under “Mathematical modeling of ARVs diffusion into the lymph nodes to investigate drug transport mechanisms”
2. American Mathematical Society (AMS) Spring Eastern Virtual Sectional Meeting, March 2022, presented a talk under the title “Mathematical modeling of ARVs diffusion into the lymph nodes: investigating drug transport mechanisms”
3. BMES annual meeting, Biomedical Engineering Society, October 2021, presented a talk under the title “Computational modeling of antiretroviral drug transport in a 3D anatomically reconstructed lymph node”
4. 63rd Annual meeting of biophysical society, Poster presented under the title “Study of Self-Assembly in Protein-Protein Interactions in Ultrafast Endocytosis”, March 2019, Baltimore MD, USA

Notable Workshops and Educational schools

1. Workshop in differential gene expression analysis, National Center for Genomic research, Santa Fe, NM, USA- March 2021 (certificated)
2. 4th Soft matter School “Charged Systems in Soft Matter”, Won first prize for best group presentation, won special acclaim for individual group project under “gummy bears: what makes them swell?”, UNIST, Ulsan, South Korea (July 2016)
3. Computer Simulations of Biological Systems, IPM, Tehran, Iran (May 2014)
4. 4th Conference of Advances in Superconductivity (chairman: Nobel Laureate Prof. Anthony Leggett), Sharif University, Tehran, Iran (February 2014)

Computer and Programing Skills

- Amira (biomedical image analysis)
- R and RStudio
- MATLAB
- Python
- Unix
- Wolfram Mathematica
- Minitab
- ImageJ and Fiji
- Molecular visualization software including VMD and PyMOL
- Experience using HPC clusters and batch systems
- Experience using git and version control

Other Language Education

- TTC (Teacher’s Training Course) at Safir Language Academy
- French language, level A2