Personal information

Name : Samaneh Davoudi

Date of Birth : 4/27/1987
Place of Birth : Tehran, Iran
Gender : Female
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Education

2019 - now PhD Student, Biomedical Engineering,
BioMMeda group, Department of Electronics and Information Systems, Ghent University , Belgium
Project title : Calculating the permeability of lipid membranes
Supervisors : Prof. An Ghysels

2009 – 2012 MSc Student, Chemical Engineering – Nanotechnology,
Chemical Engineering Department, AmirKabir University of Technology, Tehran, Iran
Project title : Molecular dynamics simulation of plasma membrane Ca^{2+}- ATPase (PMCA) interacting with DPPC lipid bilayer in an aqueous environment with GROMACS
Supervisors : Prof. Bahram Nassernejad

2005 - 2009 BSC Student, Chemical Engineering – Food Industries,
Chemical Engineering Department, AmirKabir University of Technology, Tehran, Iran
Project title : Edible oil industry research
Supervisors : Prof. Bahram Dabir and Prof. Bahram Nassernejad

Academic experiences

2023 (June) Research visit, Molecular dynamics group (Prof. Siewert J. Marrink)
Coarse-grained oxygen forcefield parametrization
Groningen University, Groningen, The Netherlands

2020-2023 Teaching Assistant, IBiTech – Biommeda research group
Course: Modeling in medicine and biomedical engineering: case studies,
Ghent University, Ghent, Belgium

2018-2019 Research Assistant to Prof. Bahram Nassernejad in:
Water and Wastewater Lab, Chemical Engineering department,
AmirKabir University of Technology, Tehran, Iran. (part-time)

2012-2014 Research Assistant to Prof. Bahram Nassernejad in:
Molecular Simulation Lab, Chemical Engineering department,
AmirKabir University of Technology, Tehran, Iran. (part-time)

Industrial experiences

2013-2018 R&D expert, Saman Faraz Gheshm Co.
(Petrochemical materials's export and import), Tehran, Iran

2012-2013 R&D expert, Science and Technology Park of of Tehran,
Arian Setak Andish (ASa: HSE Consultant), Tehran, Iran

Honors and awards

2022 Being awarded for my research work and poster presentation with the 'Britton Chance Award' in ISOTT conference being held in Switzerland, Ascona on 18th to 23rd of September.

2009 Among ten top students (among 120 students) in the Chemical Engineering department of Amirkabir University of Technology, , Tehran, Iran, and awarded to continue my graduate study as a "state-funded" student without an entrance exam.

Publications

International peer reviewed journals:

2023 Davoudi, S., Raemdonck, k., Braeckmans, K., and Ghysels, A: 'Capric acid and tetradecanoic acid permeability enhancers in curved liposome membranes ', ***Journal of Chemical Information and Modelling***, 2023, submitted.

2023 Davoudi, S., Wang, Q., Patel, HH., Pias, SC., Ghysels, A: 'Understanding the role of caveolae in oxygen buffering: the effect of membrane curvature ', ***Advances in Experimental Medicine and Biology / Oxygen Transport to Tissue XLIV***, 2023, accepted.

2023 Davoudi, S., Ghysels, A: 'Defining permeability of curved membranes in molecular dynamics simulations', ***Biophysical Journal***, 2023, 122(11): 2082-2091.

2021 Ghysels, A., Roet, S., Davoudi, S., van Erp, TS.: 'Exact non-Markovian permeability from rare event Simulations', ***Physical Review Research journal***, 2021, 3(3): 033068.

	2021	Davoudi, S., Ghysels, A: 'Sampling efficiency of the counting method for permeability calculations estimated with the inhomogeneous solubility–diffusion model', ***The Journal of Chemical Physics***, 2021, 154(5): 054106.
	2015	Davoudi, S., Amjad-Iranagh, S., Zaeifi Yamchi, M: 'Molecular dynamic simulation of Ca^{2+}-ATPase interacting with lipid membrane', ***IET Nanobiotechnology journal***, 2015, 9(2): 85-9.
Conferences	**2023**	poster presentation: Davoudi, S., Ghysels, A. 'Assessing passive permeability of drug releasing liposomes containing saturated fatty acids with molecular dynamics simulations'**. GGMM 2023 - Young Modellers** *conference, Toulouse, France, 15th to 17th of May, 2023.*
	2022	Oral presentation: Davoudi, S., Raemdonck, k., Braeckmans, K., and Ghysels, A. 'Effect of membrane curvature and lipid composition on membrane permeability in liposomal drug delivery'**.** ***CRF-ChemCYS 2022*** conference, Blankenberge, Belgium, 12th to 14th of October, 2022.
	2022	Poster presentation: Davoudi, S., Wang, Q., Patel, HH., Pias, SC., and Ghysels, A. 'Understanding the role of caveolae in oxygen buffering: the effect of membrane curvature'. ***ISOTT 2022*** conference, Ascona, Switzerland, 18th to 23rd of September, 2022.
	2022	Poster presentation: Davoudi, S., Raemdonck, k., Braeckmans, K., and Ghysels, A. 'Investigating membrane curvature and composition effect on membrane permeability by counting permeant crossings'. ***Molecular Simulation 2022, Past, Present and future (MolSim 2022)*** meeting, Sicily, Italy, 25th to 29th of June, 2022.
	2022	Poster presentation: Davoudi, S., Raemdonck, k., Braeckmans, K., and Ghysels, A. 'Understanding membrane permeability of drug releasing liposomes from molecular dynamics simulations: effect of curvature and composition'. ***OncoPoint symposium 2022: a festive edition***, Ghent, Belgium, 23th of May, 2022.
	2022	Poster presentation (online): Davoudi, S., Raemdonck, k., Braeckmans, K., and Ghysels, A. 'Counting permeant crossings to assess the effect of membrane curvature and composition on the permeability rate'. ***Biophysical Journal*** 121, no. 3 (2022): 71a-72a. (Biophysical Society meeting, San Francisco).
	2021	Poster presentation (online): Davoudi, Samaneh, and An Ghysels. "Inhomogeneous solubility-diffusion model gives insight in efficacy of counting crossings method to calculate the membrane permeability." ***Biophysical Journal*** 120, no. 3 (2021): 80a. (Biophysical Society meeting).
	2020	Oral presentation (online): Davoudi, S., Ghysels, A: 'Assessing counting method efficiency in cell permeability calculation'. ***19th National Day on Biomedical Engineering***, Brussels, Belgium, 27th of November, 2020.
Workshops	**2021**	"Martini 3.0" online workshop, held by University of Groningen, 1st – 3rd of September, 2021
	2018	"A simple acquaintance with downstream process in pharmaceutical industry" workshop,held by CinnaGen company, Tehran, Iran, 1st and 2nd of March, 2018
Skills		Programming languages: C++, Python Typesetting: Microsoft Word Transferable: Presentation, Teamwork, Leadership, Problem-solving Communication: English, Persian, Dutch (limited proficiency)
Hobbies	**2018-2019**	Weightlifting with an experience as: "Fitness coach" at Rezaei-Majd wrestling academy, Tehran, Iran
References		Professor An Ghysels Ghent University Email: An.ghysels@ugent.be