

CONTACT
INFORMATION

Postdoctoral Fellow at Prof. Guillaume Lettre Lab,
Institut de cardiologie de Montréal, 5000 Rue Bélanger, Montréal, QC



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PERSONAL
STATEMENT

I am passionate about revealing the genetic variations that drive complex human diseases through my work in functional genomics. With a strong background in molecular biology, genetics, and bioinformatics, I bridge the gap between molecular and computational research to advance innovation in precision medicine. I thrive on collaborating with diverse wet and dry lab teams to turn computational predictions into functional biology insights.

EDUCATION

National University of Singapore, Singapore, Singapore 2019 - 2024
Doctor of Philosophy (*Joint Ph.D.*), Integrated Biology and Medicine

Duke University, Durham, NC, USA 2019 - 2024
Doctor of Philosophy (*Joint Ph.D.*), Integrated Biology and Medicine

University of Tehran, Tehran, Iran 2012 - 2019
Continuous Master of Science (B.Sc./M.Sc.), Biotechnology

EXPERIENCE

Montreal Heart Institute/ University of Montreal, Montréal, QC Jun 2025 - present
- Post-doctoral fellow at Dr. Guillaume Lettre lab. Characterization of the genetic determinants underlying hypertension and coronary artery diseases.

Duke-NUS Medical School, Singapore, Singapore Feb 2020 - Jan 2025
- PhD student and research fellow at Dr. Yaw Shin Ooi lab. Genome-scale CRISPR/Cas9 screening to discover viral host dependency factors.

Duke University, Durham, NC, USA Sep 2023 - Oct 2023
- Visiting graduate student at Dr. Dennis Ko lab. Studying the allele diversities impacting host susceptibility to flaviviruses.

ROYAN Institute, Tehran, Iran Sep 2016 - Feb 2019
- Visiting graduate student researcher at Dr. Hossein Baharvand lab. Metabolic profiling of naïve and primed human pluripotent stem cells.

HONORS &
AWARDS

Duke-NUS Achievement Prize (Official NUS University-Level Award Certificate) 2024
- Most Outstanding PhD Student Class of 2024, Duke-NUS Medical School, ≈700 USD Cash Prize

Student Representative of NUS at Global Young Scientists Summit (GYSS) 2024
- Awarded by National University of Singapore

Best Oral Presentation Award	2021
- Awarded by International Vector-borne Diseases Conference (IVBDC), Singapore	
Duke-NUS Medical School Graduate Scholarship	2019 - 2024
- Full tuition and stipend coverage, ≈300,000 USD	
Undergraduate Fellowship	2012 - 2016
- Awarded by National Elites Foundation of Iran (BMN), ≈5,000 USD	
Rank 55th at the Nation-wide Entrance Exam of Iranian Universities	2012
- Among +600K participants (Top 0.01%), held by Iran Ministry of Science, Research, and Technology.	
Silver Medal at 21st National Chemistry Olympiad	2011
- Among +20K participants (Top 0.1%), held by Iran Ministry of Education.	

SKILLS

Dry Lab	OS: Windows, macOS, Linux
	Programming: R, Python, Shell scripting
	Software: Office, Prism, Adobe Illustrator, L ^A T _E X, Geneious
	Bioinformatics: - NGS analysis: RNA-Seq, ATAC-Seq, ChIP-Seq, snMultiome, Fiber-Seq, Pangenome (Short/Long read, Bulk/Single-cell)
	- High-performance computing (HPC)
	- Gene ontology and pathway enrichment analysis (GSEA, ClusterProfiler, Enrichr, gProfiler)
	- Data dashboarding and visualization (Shiny, ggplot2, matplotlib, plotly)
Wet Lab	Cell culture (animal, bacterial); Microscopy (optical, confocal); RNA/DNA/Protein extraction and quantification; PCR/qPCR; Gel electrophoresis and extraction; Cloning (traditional, Gibson assembly); NGS library preparation; SDS-PAGE and western blotting; Plaque assay
Languages	English: Full Proficiency
	French: Beginner

PUBLICATIONS

* denotes co-first authors , # denotes co-corresponding authors

[10.] See, W. R., **Yousefi, M.**, and Ooi, Y. S. (2024). [A review of virus host factor discovery using CRISPR screening](#). *mBio* 0:e03205-23.

[9.] **Yousefi, M.#**, See, W. R., Aw-Yang, K. L., Lee, W. S., Yong, C. L., Fanusi, F., Smith, G. J. D., Ooi, E. E., Li, S., Ghosh, S., and Ooi, Y. S.# (2024). [GeneRaMeN enables integration, comparison, and meta-analysis of multiple ranked gene lists to identify consensus, unique, and correlated genes](#). *Briefings in Bioinformatics*, 25(5), bbae452.

[8.] **Yousefi, M.***, Lee, W. S.*, Chan, W. O. Y.*, He, W., Mah, M. G., Yong, C. L., Deerain, J. M., Wang, L., Arcinas, C., Yan, B., Tan, D., Sia, W. R., Gamage, A. M., Yang, J., Hsu, A. C.- Y., Li, S., Linster, M., Yang, X., Ghosh, S., Anderson, D. E., Smith, G. J. D., Tan, C. W.,

Wang, L.- F., and Ooi, Y. S. (2023). [Betacoronaviruses SARS-CoV-2 and HCoV-OC43 infections in IGROV-1 cell line require aryl hydrocarbon receptor](#). *Emerging Microbes & Infections*, 12(2), 2256416.

[7.] Cui, L., **Yousefi, M.**, Yap, X., Koh, C. W., Tay, K. S. L., Ooi, Y. S., and Chan, K. R. (2023). [Mass Spectrometry-based Lipidomics, Lipid Bioenergetics, and Web Tool for Lipid Profiling and Quantification in Human Cells](#). *Bio-protocol*, 13(16).

[6.] Ng, W. C., Kwek, S. S., Sun, B., **Yousefi, M.**, Ong, E. Z., Tan, H. C., Puschnik, A. S., Chan, K. R., Ooi, Y. S., and Ooi, E. E. (2022). [A fast-growing dengue virus mutant reveals a dual role of STING in response to infection](#). *Open Biology*, 12220227220227.

[5.] **Yousefi, M.**, Lee, W. S., Yan, B., Cui, L., Yong, C. L., Yap, X., Tay, K. S. L., Qiao, W., Tan, D., Nurazmi, N. I., Linster, M., Lee, Y. H., Smith, G. J., Carette, J. E., Ooi, E. E., Chan, K. R. and Ooi, Y. S. (2022). [TMEM41B and VMP1 modulate cellular lipid and energy metabolism for facilitating dengue virus infection](#). *PLoS Pathogens*, 18(8), e1010763.

[4.] Lee, W. S.* , **Yousefi, M.***, Yan, B., Yong, C. L., and Ooi, Y. S. (2021). [Know your enemy and know yourself – the case of SARS-CoV-2 host factors](#). *Current Opinion in Virology*, 50, 159-170.

- Featured on the journal cover

[3.] **Yousefi, M.**, Marashi, S. A., Sharifi-Zarchi, A. and Taleahmad, S., (2019). [The metabolic network model of primed/naïve human embryonic stem cells underlines the importance of oxidation-reduction potential and tryptophan metabolism in primed pluripotency](#). *Cell & Bioscience*, 9(1), p.71.

[2.] Taleahmad, S., Alikhani, M., Mollamohammadi, S., **Yousefi, M.**, Taei, A., Hassani, S. N., Baharvand, H. and Salekdeh, G. H., (2019). [Inhibition of Human Y Chromosome Gene, SRY, Promotes Naïve State of Human Pluripotent Stem Cells](#). *Journal of Proteome Research*, 18(12), pp.4254-4261.

[1.] Sababi, M., Marashi, S. A., Pourmajidian, M., Pourtabatabaei, S. S., Darki, F., Sadrzadeh, M. R., Dehghani, M., Zandieh, A., Zim, M. K., **Yousefi, M.**, Jamalkhah, M., Tabatabaei, S. K., Safaeifard, F., Talaie, A., Sobat, M., Moakedi, F., and Nejadi, P., (2017). [How accessibility influences citation counts: The case of citations to the full text articles available from ResearchGate](#). *RT. A Journal on Research Policy and Evaluation*, 5(1).

PRESENTATIONS & POSTERS [Poster] [Identification of AHR as a pro-viral host factor of human betacoronaviruses SARS-CoV-2 and HCoV-OC43 using IGROV-1 cells](#). Molecular Genetics and Microbiology (MGM) Department Retreat, Duke University School of Medicine, NC, USA (Sep 2023)

[Poster + 3 min rapid-fire oral presentation (8 posters selected out of +120)] [TMEM41B and VMP1 modulate cellular lipid and energy metabolism for facilitating dengue virus infection](#). 11th Australasian Virology Society (AVS) Meeting, Gold Coast, Australia (Dec 2022)

[Workshop] [Using genome-wide CRISPR/Cas9 screening to unravel viral host factors](#). Department of Microbiology, University of Tehran, Iran (Jun 2022)

[Talk] [Dengue virus infection requires TMEM41B and VMP1 for evading innate immunity and modulating cellular lipid metabolism](#). International Vector-Borne Diseases Conference (IVBDC),

Singapore (Nov 2021)

[Poster] *Functional genetic dissection of Chikungunya virus host dependency factors through genome-wide CRISPR screens.* Duke-NUS PhD Students Research Symposium, Singapore (Oct 2020)

PROFESSIONAL & VOLUNTEER ACTIVITIES	Reviewer at Journal of Virology and Virology Journal	2023 - present
	Membership at Australasian Virology Society (AVS)	2022 - present
	Membership at American Society of Virology (ASV)	2021 - present
	Chief Executive Director, 4 th International Students Biotechnology Congress, Tehran	2019
	Elected Member of Biotechnology Students' Society, University of Tehran	2014 and 2016
	Chemistry Olympiad Teacher at Tehran High Schools	2012 - 2016