Meisam Yousefi — CURRICULUM VITAE

Contact Information

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Personal Statement

My passion is to leverage my molecular and computational expertise to reveal the genetic basis of infection, especially for emerging and re-emerging viral pathogens. I have a strong foundation in molecular biology, genetics, virology, and bioinformatics, and am able to effectively engage with both wet and dry lab researchers and teammates.

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

Duke-NUS Medical School, Singapore, Singapore — Feb 2020 - Mar 2024
- Doctoral candidate at Dr. Yaw Shin Ooi lab. Genome-scale CRISPR/Cas9 screening to discover viral host dependency factors.

Duke University School of Medicine, 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.

University of Tehran School of biology, Tehran, Iran — Jul 2015 - Aug 2016
- Undergraduate researcher at Dr. Elahe Elahi lab. Studying the genetic determinants of primary angle-closure Glaucoma .

Honors & Awards

Duke-NUS Achievement Prize (Official NUS University-Level Award) — May 2024
- Most Outstanding PhD or MD-PhD Student Class of 2024, Duke-NUS Medical School

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

Best Oral Presentation Award — Nov 2021
- Awarded by International Vector-borne Diseases Conference (IVBDC), Singapore

Rank 55^{th} at the Nation-wide Entrance Exam of Iranian Universities Aug 2012
- Among +600K participants (Top 0.01%), held by Iran Ministry of Science, Research, and Technology.

Silver Medal at 21^{st} National Chemistry Olympiad Aug 2011
- Among +20K participants (Top 0.1%), held by Iran Ministry of Education.

Skills

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

Dry lab:

OS: Windows, MacOS, Linux

Programming and Scripting: R, Shell, Python (basic)

Softwares: Microsoft Office, Graphpad Prism, Adobe Illustrator, LaTeX, Geneious

Bioinformatics pipelines:
- CRISPR/Cas9 genetic screen analysis (MAGeCK)
- NGS analysis (FastQC, HISAT2/STAR, BBtools, BAMtools, BEDtools, SubRead/HTSeq, edgeR/limma/DESeq2, Seurat)
- Gene ontology and pathway enrichment analysis (GSEA/ClusterProfiler/Enrichr/gProfiler)
- Data dashboarding and visualization (Shiny, ggplot2, plotly)
- Metabolic network reconstruction (COBRA toolbox, RAVEN toolbox)

Languages:

- English: Full Proficiency
- Farsi/Persian: Native

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. *[IF=5.1]*

[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. *[IF=6.8]*

[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. *[IF=8.4]*

[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). *[IF=1.0]*

[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. *[IF=4.5]*

[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. *[IF=5.5]*

[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. *[IF=5.7]*

- Featured on the journal cover

[3.] **Yousefi, M.**, Marashi, S. A., Sharifi-Zarchi, A. and Taleahmad, S., (2019). The metabolic network model of primed/naive human embryonic stem cells underlines the importance of oxidation-reduction potential and tryptophan metabolism in primed pluripotency. *Cell & Bioscience*, 9(1), p.71. *[IF=6.1]*

[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 Naive State of Human Pluripotent Stem Cells. *Journal of Proteome Research*, 18(12), pp.4254-4261. *[IF=3.8]*

[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., Talaei, 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.* Depart-

ment 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

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