

## Contact Information

Name: Omar Assafiri

Date of birth: 05/12/1989

Nationality: Australian

Address: Unit 2 12 Barber Avenue, Eastlakes, NSW, 2018

Email address: [omar.assafiri@sydney.edu.au](mailto:omar.assafiri@sydney.edu.au)  
[ioassafiri@gmail.com](mailto:ioassafiri@gmail.com)

Phone number: 0419888608



## Personal Statement

I have completed a PhD in microbiology while having experience in microbiology and plant biology based on my MS thesis. Currently, I am spear heading a project using R program (nlmixr2 package) to understand the mechanistic interaction between bacteria, phage, ciprofloxacin, and phage/antibiotic via pharmacodynamics and pharmacokinetics (PK/PD) model that includes predictions and simulation.

## Work experience

- Research Officer at University of Sydney (Faculty of Medicine and Health; School of Pharmacy) (March of 2023- present)

## Core Qualifications

**Post Graduate Education:** Master of Teaching (Secondary (Methods: Biology, Chemistry) (University of New South Wales) (2022-2023)

**Post Graduate Education:** PhD student in Microbiology at Universiti Putra Malaysia (2016-2021)

- Thesis:

- Isolation and characterization of novel phages in treating MDR *Klebsiella pneumoniae* using zebrafish larvae model
- Aim of Thesis: To isolate phages from the environment, purify and characterize them; to measure their in vitro plating efficiency against MDR *K. pneumoniae* 2146 and 1705; to perform whole genomic sequencing on the phage genome and perform bioinformatics analysis; and to investigate the capability of the phage in protecting zebrafish larvae against *K. pneumoniae* infection.
- Teaching final year project students in lab during my PhD studies.

**Post Graduate Education:** M.S in biology at Beirut Arab University (graduated in 2016)

- Thesis:
  - Evaluating the Antibacterial Effects of Different Parts of *Rubus hedycarpus* Against Drug Resistant Bacterial Strains.
  - Aim of Thesis: To assess to assess the antimicrobial activity for the extracts of different parts of *Rubus hedycarpus* (stems, leaves, and fruit juice); to qualitatively profile the phytochemical constituents of the plant.

Conferences attended/ presented:

- LAAS'16: Evaluating the Antibacterial Effects of Different Parts of *Rubus hedycarpus* Against Drug Resistant Bacterial Strains.
- LAAS'15: Assessing the Antibacterial Efficacy of *Rubus hedycarpus* and Qualitative Analysis of the Phytochemical Composition.
- Arab health: MEDLAB 2016 at Dubai International Convention & Exhibition Centre, Dubai, United Arab Emirates.
- Arab health: MEDLAB 2014 at Dubai International Convention & Exhibition Centre, Dubai, United Arab Emirates.

- Other Degrees:
  - Teaching diploma in Biology at University of Balamand (graduated in 2015) /B. S in Biology at University of Balamand (graduated in 2012)

## Skills

- R programing for pharmacokinetic/pharmacodynamic (PK/PD) modeling of antibiotic, phage, and combination against bacteria.
- Isolation, characterization, DNA extraction, and bioinformatic analysis of the bacteriophage/bacteria.
- Using phages for phage therapy *in vivo* (zebrafish larvae and mice).
- Oil extraction of plants and testing to determine their antibacterial efficacy against drug resistant bacteria (Gram-positive and Gram-negative).
- Good English communication skills.
- Can works either independently or within a team.
- Critical thinking skills.
- Time management skills.
- Problem solving skills.
- Flexibility.

## Publication

- **Assafiri, O.**, Hong, Q., Morales, S., Lin, Y.-W., & Chan, H.-K. (2025). A semi-mechanistic pharmacokinetic/pharmacodynamic model for quantifying phage-antibiotic synergy against *Pseudomonas aeruginosa*. *Expert Opinion on Drug Delivery*. Advance online publication. <https://doi.org/10.1080/17425247.2025.2520963>
- Hong, Q., Chang, R. Y. K., **Assafiri, O.**, Morales, S., & Chan, H. K. (2024). Optimizing in vitro phage-ciprofloxacin combination formulation for respiratory therapy of multi-drug resistant *Pseudomonas aeruginosa* Infections. *International Journal of Pharmaceutics*, 123853. <https://doi.org/10.1016/j.ijpharm.2024.123853>
- **Assafiri, O.**, Song, A., Tan, G., Hanish, I., Hashim, A., & Yusoff, K. (2021). *Klebsiella* virus UPM2146 lyses multiple drug-resistant *Klebsiella pneumoniae* in vitro and in vivo. *PLOS ONE*, 16: e0245354. doi: <https://doi.org/10.1371/journal.pone.0245354>
- **Assafiri, O.**, Song, A., Hanish, I., Tan, G., & Yusoff, K. (2021). Isolation and characterization Phage UPM1705 against multi-drug resistant *K. pneumoniae* 1705. *Asia Pacific Journal of Molecular Biology and Biotechnology*, 1: 19-25. doi: <https://doi.org/10.35118/apjmbb.2021.029.1.03>
- **Assafiri, O.**, Abdallah, H., & El-Dakdouki, M. (2021). ANTIBACTERIAL EFFECT AND PHYTOCHEMICAL ANALYSIS OF THE SHOOT SYSTEM OF *RUBUS CANESCENS* DC. GROWING IN LEBANON. Retrieved 10 January 2021, from <https://digitalcommons.bau.edu.lb/stjournal/vol2/iss1/9/>

## Patent Deposit

- Isolated and purified Bacteriophage for use in the treatment or prevention of bacterial infections and method of preparation thereof. [Malaysian Patent Application: PI2021005061 (03 September 2021)]

## LinkedIn

- <https://www.linkedin.com/in/omar-assafiri-71bb94203/>

## ORCID

- <https://orcid.org/0000-0002-7626-3099>

## Referee:

- **Professor Hak-Kim Chan**

Position: Professor in Pharmaceutics at University of Sydney (Faculty of Medicine and Health; School of Pharmacy)

Email: [kim.chan@sydney.edu.au](mailto:kim.chan@sydney.edu.au)

Phone number: +61 2 9351 3054

- **Dr Yu-Wei Lin**

Position: Director of Pharmacometrics at Certara

Email: [yu-wei.lin@monash.edu](mailto:yu-wei.lin@monash.edu)

LinkedIn profile: <https://www.linkedin.com/in/yu-wei-wayne-lin/>

- **Professor Khatijah Yusoff**

Position: Professor in Microbiology at Universiti Putra Malaysia (Faculty of Biotechnology and Biomolecular Sciences, Department of Microbiology)

Email: [kyusoff@upm.edu.my](mailto:kyusoff@upm.edu.my)

Phone number: +603 -9769 7765

- **Associate Professor Dr Tan Geok Hun**

Position: Doctor in Microbiology at Universiti Putra Malaysia (Faculty of Agriculture, Department of Agriculture Technology)

Email: [geok\\_hun@upm.edu.my](mailto:geok_hun@upm.edu.my)

Phone number: +603-9769 8071

- **Dr Amalia Mohd Hashim**

Position: Doctor in Microbiology at Universiti Putra Malaysia (Faculty of Biotechnology and Biomolecular Sciences, Department of Microbiology)

Email: [amalia@upm.edu.my](mailto:amalia@upm.edu.my)

Phone number: +603-9769 8071

- **Dr Irwan Hanish Warsanah**

Position: Doctor in Microbiology at Universiti Putra Malaysia (Faculty of Biotechnology and Biomolecular Sciences, Department of Microbiology)

Email: [irwanhanish@upm.edu.my](mailto:irwanhanish@upm.edu.my)

Phone number: +603-9769 8261