



# FATIMAH BINTI HASHIM

Lecturer  
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## QUALIFICATIONS

- Doctor of Philosophy (Biotechnology), Universiti Malaysia Terengganu
- Bachelor of Science (Hons) Biology, Universiti Putra Malaysia

## FIELD OF RESEARCH

- Protozoology
- Cell Biology
- Microscopy Techniques
- In-silico (molecular docking) studies

## RESEARCH INTEREST

Fatimah Hashim research is in protozoology field with cytotoxicity studies approach using microscopy and proteomic methods. Currently, the research project she is conducting is on contact lens solution that is safe to use and can destroy various microorganisms found in contact lens solution by using enzymatic methodologies. In addition, she also tested various substances such as plant extracts, organic and inorganic pure compounds, biomaterials as well as nanoparticles on *Acanthamoeba* sp. and cell lines. These substances are tested either for drug discovery or as a bio indicator (compound safety) purposes which are also have been published in various publication. The methods in her research use mainly microscopy techniques which are light, fluorescence, scanning and transmission electron microscopy. Her research also uses in silico methods to strengthen her research output. She also welcomes any collaboration from within and outside of the country.

## RESEARCH PROJECTS

- Enzymatic basis contact lens solution development
- Compound safety testing
- Identification of protozoan from environment

## EXPERT LINKAGES

- DR. ENY KUSRINI, Department of Chemical Engineering, Faculty of Engineering, Universitas Indonesia, Kampus Baru UI, Depok 16424, Indonesia ASSOC.
- PROF. DR ANWAR USMAN, Department of Chemistry, Faculty of Science, Universiti Brunei Darussalam, Jalan Tungku Link, Gadong BE1410, Brunei Darussalam ASSOC. PROF. DR AZLIN FAZLINA OSMAN
- Center of Excellence Geopolymer and Green Technology (CEGeoGTech), School of Materials Engineering, University Malaysia Perlis, 02600, Perlis, Malaysia

## PROFFESIONAL MEMBERSHIP

- Malaysian Microscopy Society

## GRANTS

Project : Mechanism Of Cystidal Effect In *Acanthamoeba* sp Protein Characterization And Morphological Charateristics Of Cystic *Acanthamoeba* Exposed To B-Glucanase Enzyme And Polyhexamethylene Biguanide PHMB

Position : Project Leader

Grant : FRGS

Name

Status : Active

Amount : RM86,000.00

Project : A Strategy to Degrade Trehalose structure of *Acanthamoeba* Cyst: Protein Analysis and Morphological Characteristics of Cystic *Acanthamoeba* exposed to Trehalase Enzyme

Position : Project Leader

Grant : TAPE-RG

Name

Status : Completed

Amount : RM20,000.00

Project : Molecular And Morphological Identification Of Unknown Amoeba Spesies Isolated From Gills Of Tilapia (*Oreochomis* Sp)

Position : Project Leader

Grant : RAGS

Name

Status : Completed

Amount : RM64,000.00

Project : Modification Of Magnetite-Doped Lanthanide Nano-Particles For Drug Delivery System And Antiamoebic Activity

Position : Co-Researcher

Grant Name : Hibah Riset Berbasis Kolaborasi Internasional, Universitas Indonesia  
Status : Completed  
Amount : Rp250,000,000.00 (RM64,000.00)

Project : Towards Oxygen Tolerant Cross-Coupling Reactions In Aqueous Media For The Developing World In The Interest Safer Molecular Electronics: An Attempt In Reducing Solvents And Toxic Chemicals Dependency

Position : Co-Researcher

Grant Name : The Organisation for the Prohibition of Chemical Weapons (OPCW)

Status : On-going

Amount : Euro 24,590 (RM 114, 108. 83)

## AWARDS

- Anugerah Perkhidmatan Cemerlang (2019)
- Anugerah Khas Pendidik (2019)
- Anugerah Penerbitan Berwasit (2012)
- Product and Innovation Award (2016)
- Community Service Award (2016)

## PUBLICATIONS

### Journal Article

1. **Fatimah, H.\***, Aisyah, R. S., Ma, N. L., Rased, N. M., Mohamad, N. F., Nafisa, F. N. S., ... & Zakeri, H. A. *Aspergillus niger* trehalase enzyme induced morphological and protein alterations on *Acanthamoeba* cyst and molecular docking studies. (2021) *Journal of Parasitic Diseases*, 1-15.
2. Wan M. Khairul, **Fatimah Hashim\***, Mas Mohammed, Nurul Shazwani Mohd Norhadi Shah, Syed Ahmad Tajudin Tuan Johari, Rafizah Rahamathullah, Adibah Izzati Daud, Nyuk Ling Ma (2021). Synthesis, Molecular Docking and Biological Activity Evaluation of Alkoxy Substituted Chalcone Derivatives: Potential Apoptosis Inducing Agent on MCF-7 Cells. *Anti-cancer Agents and Medicinal Chemistry*. Article In-press. DOI: 10.2174/1871520620999201110190709
3. **Fatimah Hashim\***, Nur A'fiefah Binti Mohd zulkeffli, Zafirah Najwa binti Zainal Abidin Muhammad Fairus Noor Hassim and Ramesh Kumar Santhanam. Commercial Eye Drops Triggers Necrotic Effect In *Acanthamoeba* Sp. *Malaysian Applied Biology*. (2020) 49(4): 85–90.
4. Kusriani, E., **Hashim, F.**, Saleh, M. I., Adnan, R., Usman, A., Zakaria, I. N., & Prasetyanto, E. A. (2020). Monoclinic cerium (III) picrate tetraethylene glycol complex: design, synthesis and biological evaluation as anti-amoebic activity against *Acanthamoeba* sp. *Journal of Materials Science*, 55(23), 9795-9811.

5. Kusrini, E., Sabira, K., **Hashim, F.**, Abdullah, N. A., Usman, A., Putra, N., & Prasetyanto, E. A. (2020) Design, synthesis and antiamebic activity of dysprosium-based nanoparticles using contact lenses as carriers against *Acanthamoeba* sp. *Acta Ophthalmologica* Article In-press, <https://doi.org/10.1111/aos.14541>
6. Nazri, N. K., Ismail, N., Abdullah, M. A. A., **Hashim, F.**, & Wright, L. J. (2020). Synthesis And Characterization Of Catalytic Polymer-Clay Film For Treatment of 17 $\alpha$ -Ethinylestradiol. *Malaysian Journal of Analytical Sciences*, 24(3), 330-338.
7. Zamli, K. M., Asari, A., **Hashim, F.**, Yusoff, H. M., Mohamad, H., & Abdullah, F. (2020). Anti-Amoebic Activity of Eugenol Derivatives against *Acanthamoeba castellanii*. *Malaysian Journal of Chemistry*. 22 (93), 100-110.
8. Abdullah, N. A., Zullkiflee, N., Zaini, S. N. Z., Taha, H., **Hashim, F.**, & Usman, A. (2020). Phytochemicals, mineral contents, antioxidants, and antimicrobial activities of propolis produced by Brunei stingless bees *Geniotrigona thoracica*, *Heterotrigona itama*, and *Tetrigona binghami*. *Saudi Journal of Biological Sciences*. 27(11), 2902-2911
9. Johari, S. A. T. T., **Hashim, F.**, Ismail, W. I. W., & Ali, A. M. (2019). A review on biological activities of Gelam honey. *Journal of Applied Biology & Biotechnology* 7(01), 71-78.
10. Johari, S. A. T. T., **Hashim, F.**, Ismail, W. I., & Ali, A. M. (2019). Combinatorial cytotoxic effects of gelam honey and 5-Fluorouracil against human adenocarcinoma colon cancer HT-29 cells in vitro. *International Journal of Cell Biology*. 2019, 10 pages, 2019. <https://doi.org/10.1155/2019/3059687>
11. Hazlina, A. Z., Devanthiran, L., & **Fatimah, H.** (2019). Morphological Changes and DNA Damage In *Chlorella Vulgaris* (UMT-M1) Induced By Hg<sub>2</sub>. *Malaysian Applied Biology*, 48(1), 27-33.
12. **Hashim, F.\***, Jusoh, M., Rohin, N., & Hassan, N. A. S. *Colpoda steinii* Associated With Hybrid Grouper From Kg. Gong Batu Setiu, Terengganu. *Malaysian Applied Biology*, 48(1): 163–168.
13. Fauzi, F. A., Goh, M. S., Johari, S. A. T. T., **Hashim, F.**, & Hassim, M. F. N. (2018). Dream over life: Psychedelic terphenyl derivative induce hallucination via cannabinoid receptor. *MS&E*, 440(1), 012045. AIP Publishing LLC.
14. Kusrini, E., **Hashim, F.**, Gunawan, C., Mann, R., Azmi, W. N. N. W. N., & Amin, N. M. (2018). Anti-amoebic activity of acyclic and cyclic-samarium complexes on *Acanthamoeba*. *Parasitology research*, 117(5), 1409-1417.
15. Yusoff, M., Hassan, B. N., Ikhwanuddin, M., Sheriff, S. M., **Hashim, F.**, Mustafa, S., & Koh, I. C. C. (2018). Successful sperm cryopreservation of the brown-marbled grouper, *Epinephelus fuscoguttatus* using propylene glycol as cryoprotectant. *Cryobiology*, 81, 168-173.
16. Razali, R. M., Aliyah, M. I. S., & **Fatimah, H.** (2018). Assessment of Biosynthesis of Silver Nanoparticles from *Punica granum* (Peels and Arils). *Journal of Agrobiotechnology*, 9(1), 1-16.
17. Osman, A. F., Fitri, T. F. M., Rakibuddin, M., **Hashim, F.**, Johari, S. A. T. T., Ananthkrishnan, R., & Ramli, R. (2017). Pre-dispersed organo-montmorillonite (organo-MMT) nanofiller: Morphology, cytocompatibility and impact on flexibility, toughness and biostability of biomedical ethyl vinyl acetate (EVA) copolymer. *Materials Science and Engineering: C*, 74, 194-206.

18. **Hashim, F\***, Mehamod, F. S., & Nawi, N. A. (2017). In Vitro Toxicity Evaluation of Caffeine Imprinted Polymer (CAF-MIP) for Decaffeination Method on Normal Chang Liver Cells. *Makara Journal of Technology*, 21(1), 19-25.
19. Zakeri, H. A., Ngah, Z. A., Razak, N. A. A., & **Hashim, F.** (2016). Short-term Effects of High CO<sub>2</sub> Concentrations on *Chlorella vulgaris* and *Scenedesmus regularis*. *Advances in Environmental Biology*, 10(7), 161-166.
20. Kusriani, E., **Hashim, F.**, Azmi, W. N. N. W. N., Amin, N. M., & Estuningtyas, A. (2016). A novel antiameobic agent against *Acanthamoeba* sp.—A causative agent for eye keratitis infection. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 153, 714-721.
21. Osman, A. F., Alakrach, A. M., Kalo, H., Azmi, W. N. W., & **Hashim, F.** (2015). In vitro biostability and biocompatibility of ethyl vinyl acetate (EVA) nanocomposites for biomedical applications. *RSC advances*, 5(40), 31485-31495.
22. **Hashim, F\***, Nakisah M.A & Ali A.M. (2013). Microscopic Observation on The Effect Of Chlorhexidine And Hydrogen Peroxide On Human Corneal Epithelial Cell Line. *Malaysian Journal of Microscopy*, 9(2013), 133-139.
23. **Hashim, F.\*** & Nakisah M.A (2013). Visualization on the effect of chlorhexidine gluconate, a biocide on *Acanthamoeba* sp by electron microscopy. *Malaysian Journal of Microscopy*, 9(2013), 154-159
24. Nakisah, M. A., Muryany, M. I., **Fatimah, H.**, Fadilah, R. N., Zalilawati, M. R., Khamsah, S., & Habsah, M. (2012). Anti-amoebic properties of a Malaysian marine sponge *Aaptos* sp. on *Acanthamoeba castellanii*. *World Journal of Microbiology and Biotechnology*, 28(3), 1237-1244.
25. Nakisah, M. A., **Fatimah, H.**, & Ali, A. M. (2008). Observation on the cytotoxicity of a plant compound labeled as MK2 on morphology of *Acanthamoeba* by scanning electron microscopy. *Ann Microsc*, 8, 72-75.

### Conference Publication

1. **Hashim, F\***, & Amin, N. M. (2017, February). Insights into the prominent effect of mahanimbine on *Acanthamoeba castellanii*: Cell profiling analysis based on microscopy techniques. In *AIP Conference Proceedings* (Vol. 1817, No. 1, p. 030002). AIP Publishing LLC.
2. **Fatimah.H\***, Nur Athirah A.R & Nakisah M.A. (2015) Morphological analysis on the toxic effect of manganese on *Acanthamoeba* sp. isolated from Setiu Wetland, Terengganu: An in vitro study. Elsevier Procedia Environmental Science, Vol 30 : 15-20

### Chapter in book

1. Processing and Characterization of Multicomponent Polymer Systems: New Insights. Apple Academic Press.: Tailoring and Assessing Ethylene Vinyl Acetate (EVA)/Organoclay Nanocomposites for Biomedical Applications (2019). James, J., Thomas, S., Kalarikkal, N., Weimin, Y. and Pal, K.,. Authors: Azlin Fazlina Osman, Tuty Fareyhynn M. Fitri, Asna Rasyidah Abdul Hamid, **Fatimah Hashim**, Md Rakibuddin, and Abdulkader M. Alakrach. **Hard ISBN:** 9781771887243, **E-Book ISBN:** 9780429469794, **Pages:** 380pp w/Index
2. Analisis DNA pada Ikan Kerapu (*Epinephelus* sp.) Yang Diternak (2018) Dalam Sangkar DI Tanah Bencah Setiu. Cheng Tzi Him, Nur Fajrul Aina Mohamaed Sabki, Nur Fatimah Ahmad,

Nur Fazleen Idris dan Nurjannatul Naim Kamaruddin. Mentor; **Fatimah Hashim**, Nakisah Mat Amin dan Hazlina Ahamad Zakeri. Penyunting: Suhaiti Mohd, Che Ku Noor Fatimah Che Ku Ahmad, Nadia Farhana Abdul Rahim, Tengku Shahidah Tengku Ahmad. ISBN: 978-967-0962-70-2

3. Tajuk Chapter 7: Penerokaan Sains dan Matematik. (2016). Buku: Saintis Islam: Anjakan Cendekiawan Professional. Penulis: Mazidah Mamat, Maisara Abd Kadir, Faizatul Shimal Mehamod, Nor Hazmin Sabri, Mohd Sabri Mohd Ghazali, Faridah Mohamad, **Fatimah Hashim**, Azila Adnan, Ilyani Abdullah, Fatimah Noor Harun, Mohd Ikmar Nizam Mohamad Isa. Editor: Syarifah Marzety Adibah Al-Sayed Mohamad & Mohd Ikmar Nizam Mohamad Isa. ISBN 9789670962160

## SUPERVISION

### Doctor of Philosophy Degree

Thesis Title : Effects of Gelam Honey and 5-fluorouracil Against Human Colorectal Cancer HT-29 cells through In-vitro and In-vivo Analysis of Azoxymethane-induced Aberrant Crypts Foci  
Student Name : Syed Ahmad Tajudin Tuan Johari  
Role : Main supervisor  
Status : Completed (2020)

### Master Degree

Thesis Title : Mechanism Of Cysticidal Effect In *Acanthamoeba* sp.: Protein Characterization And Morphological Characteristics of Cystic *Acanthamoeba* Exposed to B-Glucanase Enzyme and Chlorhexidine  
Student Name : Nurhidayana Mohd Rased  
Role : Main supervisor  
Status : On-going

Thesis Title : Molecular and Morphological Identification Of Amoeba Species Isolated From Gills Of Red Tilapia (*Oreochromis* sp.)  
Student Name : Wan Nornadhirah Binti Wan Noor Azmi  
Role : Main-supervisor  
Status : On-going

## COURSE TAUGHT

- Kultur Sel Dan Tisu
- Biologi Perkembangan
- Fisiologi Haiwan
- Biologi II
- Biologi Sel Dan Molekul
- Teknik-Teknik Mikroskopi
- Prinsip Biologi
- Mikrobiologi Akuatik I

## LINKS

➤ SCOPUS	: <a href="https://www.scopus.com/authid/detail.uri?authorId=57194217719">https://www.scopus.com/authid/detail.uri?authorId=57194217719</a>
➤ Researchgate	: <a href="https://www.researchgate.net/profile/Fatimah_Hashim2">https://www.researchgate.net/profile/Fatimah_Hashim2</a>
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➤ Google Scholar	: <a href="https://scholar.google.com/citations?user=6a0jHmIAAAAJ&amp;hl=en&amp;oi=sra">https://scholar.google.com/citations?user=6a0jHmIAAAAJ&amp;hl=en&amp;oi=sra</a>
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## OTHERS

