

Mariam Hassan



I. Basic Information

Name	Mariam Hassan Abdelmoneam Haikal
Nationality	Egyptian
Date of Birth (dd/mm/yyyy)	05/09/1987
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II. Education

Degree obtained	Dates (from – to)
Ph.D. (Microbiology & Immunology), Faculty of Pharmacy, Cairo University, Cairo, Egypt.	March 2015 - April 2018
M.Sc. (Microbiology & Immunology), Faculty of Pharmacy, Cairo University, Cairo, Egypt.	March 2012 - June 2014
B.Sc. (Pharmaceutical Sciences), Faculty of Pharmacy, Cairo University, Cairo, Egypt.	September 2004 - May 2009

III. Employment History

Employer	Position	Dates (from – to)
Biotechnology Center, Faculty of Pharmacy, Cairo University, Cairo, Egypt	Deputy Director	6 / 2021 - current
Faculty of Pharmacy, Cairo University, Cairo, Egypt	Lecturer	5 / 2018 - current
Faculty of Nursing, Cairo University, Cairo, Egypt	Lecturer	Fall 2019 – current
Faculty of Pharmacy, Cairo University, Cairo, Egypt	Assistant lecturer	8 / 2014 – 5 / 2018
Faculty of Pharmacy, Cairo University, Cairo, Egypt	Teaching assistant	4 / 2011 - 8 / 2014
Faculty of Pharmacy, Ahrar Canadian University, 6 th of October City, Egypt	Teaching assistant	9 / 2009 - 4 / 2011

IV. Awards & Scholarships

Award	Year
FEMS Congress Attendance Grant (8 th Congress of European Microbiologist)	2019
Best Ph.D. Thesis in the Department of Microbiology and Immunology 2018, Faculty of Pharmacy Cairo University	2019
International Publication Award, Cairo University	2019
Fulbright scholarship, Junior Faculty development Program	2018
International Publication Award, Cairo University	2018
TWAS/BVA.NXT young scientist award, Alexandria 2018 The World Academy of Sciences (TWAS)- BioVision Alexandria.Nxt	2018
International Publication Award, Cairo University	2017
Best Masters' Thesis award in the Department of Microbiology and Immunology 2014, 6th International Scientific Conference of Faculty of Pharmacy Cairo University	2015
Best oral presentation award in biotechnology section, 2nd International Conference on Advanced basic and Applied sciences, Faculty of Postgraduate Studies for Advanced Sciences, Beni suef University	2014

V. Research Interest

Antimicrobials, Anti-virulence, Biodiversity, Bioinformatics, Bioremediation, Biotechnology, Environmental microbiome, High throughput data analysis, Hospital microbiome, Human Microbiome, Infection Control, Medical Biotechnology, Metadata analysis, Microbial genetics, Microbiology, Microbiome, Nonconventional antimicrobial agents, Nosocomial Pathogens, Phycology, Public Health, Therapeutics Development, Wastewater Treatment, small regulatory RNA, long noncoding RNA

VI. Practical and Soft Skills

- Microbiological culture techniques: MIC assay, Antibiotic susceptibility assay, Sterility assay and Fermentation (shake flasks & small-scale fermenters).
- Basic molecular techniques: DNA extraction, Gel electrophoresis, PCR and Primer design.
- Metagenomics: Metagenomic-DNA extraction and purification, Next generation sequencing, Biomonitoring of microbial communities.
- HPLC analysis, Protein Assay and Spectrophotometer.
- Photo-bioreactor design and monitoring.

- *In-vivo* testing: Dealing with mice, rats, rabbits (pulmonary infection model, eye infection model, skin infection model).
- Bioinformatics: Microbiome data analysis (QIIME pipeline), CLC Workbench Software (Alignments and Tree Design) and online databases (NCBI).
- Biostatistics: using GraphPad Prism and R software.

VII. Teaching Activities

Participated in teaching the following practical courses:

Course	Stage / Program / University
Microbiology for Nursing Students	Undergraduate / Faculty of Nursing - Cairo University
Basic Immunology	Postgraduate / Microbiology and Immunology Master's degree / Faculty of Pharmacy - Cairo University
Bioinformatics	Postgraduate / Genomics Diploma / Faculty of Pharmacy - Cairo University
Biochemical Engineering	Postgraduate / Biotechnology Diploma / Faculty of Pharmacy - Cairo University
Basic Microbiology & Immunology	Undergraduate / Regular and Clinical Programs / Faculty of Pharmacy - Cairo University
Biopharmaceutics & Pharmacokinetics	Undergraduate / Faculty of Pharmacy - Ahram Canadian University
Biotechnology	Undergraduate / Clinical Program / Faculty of Pharmacy - Cairo University
Cell Biology	Undergraduate / Clinical Program / Faculty of Pharmacy - Cairo University
Medical Microbiology	Undergraduate / Clinical and Regular Program / Faculty of Pharmacy - Cairo University
Parasitology	Undergraduate / Clinical and Regular Program / Faculty of Pharmacy - Cairo University
Pathology	Undergraduate/Clinical and Regular Program / Faculty of Pharmacy - Cairo University
Pharmaceutical Microbiology	Undergraduate / Clinical and Regular Program / Faculty of Pharmacy - Cairo University
Pharmaceutics	Undergraduate / Ahram Canadian University
Phytotherapy	Undergraduate / Student Exchange Program / University of Alberta / Ahram Canadian University
Public Health	Undergraduate / Clinical and Regular Program / Faculty of Pharmacy - Cairo University

VIII. Conferences and Activities Organization

1. Active participation in “2nd Egyptian international conference on microbiota and microbiome in health and disease, Cairo, Egypt” (November 2020).
2. Active participation in “NGU - Biologics & Biosimilars Symposium, Giza, Egypt” (March 2020).
3. Active participation in “The 8th Congress of European Microbiologists (FEMS2019), Glasgow, Scotland” (July 2019).
4. Active participation in “The 4th Annual Fulbright Alumni Conference, Cairo, Egypt”, (October 2018).
5. Active participation and moderator of “International Biotechnology and Research Conference, Rome, Italy”, (April 2018).
6. Member of the scientific committee of the 9th international scientific conference of Faculty of Pharmacy – Cairo University “Globally Recognized Egyptian Pharmaceutical Ingredients- A National Priority”, (April 2018).
7. Organization of summer training for undergraduate students, Microbiology and Immunology Department, Faculty of Pharmacy – Cairo University, (Summer 2015, 2016, 2017 & 2019).
8. Active participation and organization of the 8th international scientific conference of Faculty of Pharmacy – Cairo University “Pharmacy in Egypt: Ensuring Access to Health”, (April 2017).
9. Active participation and organization of the 7th international scientific conference of Faculty of Pharmacy – Cairo University “Translational Research in Pharmacy: From Bench to Market”, (April 2016).
10. Active participation and organization of the 6th international scientific conference of Faculty of Pharmacy – Cairo University “2020 Vision of Pharmacy in Egypt”, (April 2015).
11. Active participation and organization of the 5th international scientific conference of Faculty of Pharmacy – Cairo University “Pharmacy at the Cutting-edge: Facing Future Challenges”, (April 2014).
12. Active participation and organization of “Ibn Sina” medical convoy (the leader of Pharmacy team) in coordination with “Ahram Canadian University, 6th of October City, Egypt (August 2010).

IX. Reviewer activities

- **Ad hoc reviewer** for the international peer-reviewed journal (**FEMS Microbiology Letters**).
- **Ad hoc reviewer** for the international peer-reviewed journal (**Annals of Microbiology**).

- **Ad hoc reviewer** for the international peer-reviewed journal (**Results in Engineering**).
- **Ad hoc reviewer** for the international peer-reviewed journal (**Gene Reports**).

X. Publications & Presentations

1. Al-mahallawi AM, Ahmed D, Hassan M, El-Setouhy DA. Enhanced ocular delivery of clotrimazole via loading into mucoadhesive microemulsion system: In vitro characterization and in vivo assessment. *Journal of Drug Delivery Science and Technology* (2021), 64:102561. <https://doi.org/10.1016/j.jddst.2021.102561>
2. Ezzat MI, Hassan M, Abdelhalim MA, El-Desoky AM, Mohamed SO, Ezzat SM. Immunomodulatory effect of Noni fruit and its isolates: insights into cell-mediated immune response and inhibition of LPS-induced THP-1 macrophage inflammation. *Food & Function* (2021), 12:3170-3179. <https://doi.org/10.1039/D0FO03402A>
3. Elzeini, H.M.; Ali, A.R.A.A.; Nasr, N.F.; Hassan, M.; Hassan, A.A.m.; Elenany, Y.E., Probiotic capability of novel lactic acid bacteria isolated from worker honey bees gut microbiota. *FEMS Microbiology Letters* (2021), 368, <https://doi.org/10.1093/femsle/fnab030>
4. Ali S, Hassan M, Essam M, Ibrahim M, Elamry K. Biodegradation of aflatoxin by bacterial species isolated from poultry farms. *Toxicon* (2021), 195:7-16. <https://doi.org/10.1016/j.toxicon.2021.02.005>
5. Salem MA, El-Shiekh RA, Hashem RA, Hassan M. In vivo Antibacterial Activity of Star Anise (*Illicium verum* Hook.) Extract Using Murine MRSA Skin Infection Model in Relation to Its Metabolite Profile. *Infection and Drug Resistance* (2021), 14:33-48. <https://doi.org/10.2147/IDR.S285940>
6. Fahmy AM, Hassan M, El-Setouhy DA, Tayel SA, Al-Mahallawi AM. Statistical optimization of hyaluronic acid enriched ultradeformable elastosomes for ocular delivery of voriconazole via Box-Behnken design: in vitro characterization and in vivo evaluation. *Drug Delivery* (2021), 28(1):77-86. <https://doi.org/10.1080/10717544.2020.1858997>
7. Albash R, Al-mahallawi AM, Hassan M, Alaa-Eldin AA. Development and Optimization of Terpene-Enriched Vesicles (Terpesomes) for Effective Ocular Delivery of Fenticonazole Nitrate: In vitro Characterization and in vivo Assessment. *International Journal of Nanomedicine* (2021), 16:609-621. <https://doi.org/10.2147/IJN.S274290>
8. Fahmy AM, Hassan M, El-Setouhy DA, Tayel SA, Al-Mahallawi AM. Voriconazole Ternary Micellar Systems for the Treatment of Ocular Mycosis: Statistical Optimization and In Vivo Evaluation. *Journal of Pharmaceutical Sciences* (2020), 17:S0022-3549(20)30792-9. <https://doi.org/10.1016/j.xphs.2020.12.013>
9. Abd-Elmawla, M, Hassan M, Elsabagh Y, Alnaggar A, Senousy M. Deregulation of long noncoding RNAs ANCR, TINCR, HOTTIP and SPRY4-IT1 in plasma of systemic sclerosis patients: SPRY4-IT1 as a novel biomarker of scleroderma and its subtypes, *Cytokine* (2020), 133: 155124. <https://doi.org/10.1016/j.cyto.2020.155124>

10. Hassan A, Hassan M, Nasr N, Ali A, Elenany Y, Elzeini H, "Probiotic capabilities of lactic acid bacteria isolated from the gut microbiota of honey bee *Apis mellifera* L", NGU - Biologics & Biosimilars Symposium, Giza, Egypt, March 2020. (Poster)
11. Hassan M, Essam T, Mira A, Megahed S. Biomonitoring detoxification efficiency of an algal-bacterial microcosm system for treatment of coking wastewater: Harmonization between *Chlorella vulgaris* microalgae and wastewater microbiome, *Science of The Total Environment* (2019), 677: 120-130. <https://doi.org/10.1016/j.scitotenv.2019.04.304>
12. Hassan, M., T. Essam, and S. Megahed, "Biomonitoring of photobioreactors established to investigate the impact of toxic load and pollutants variation in coking wastewater treatment: Harmonization between microalgae and wastewater microbiome", 8th Congress of European Microbiologists (FEMS 2019), Glasgow, Scotland, July 2019. (Poster)
13. Hassan M, T. Essam, and S. Megahed, "Illumina sequencing and assessment of new cost-efficient protocol for metagenomic-DNA extraction from environmental water samples", *Brazilian Journal of Microbiology* (2018), <https://doi.org/10.1016/j.bjm.2018.03.002>
14. Ismail M.M., M. Hassan, T.M. Essam, "Biological Testing and Toxicity Bioassays in Biodegradation: Toward Better Process Control", In: Bidoia E., Montagnolli R. (eds) *Toxicity and Biodegradation Testing, Methods in Pharmacology and Toxicology*, Humana Press, New York, NY (2018). https://doi.org/10.1007/978-1-4939-7425-2_9
15. Hassan, M., T. Essam, and S. Megahed, "Community shift of water microbiome in an algal-bacterial based photo- bioreactor for wastewater treatment", 9th Probiotics, Prebiotics & New Foods, Nutraceuticals and Botanicals for Nutrition & Human and Microbiota Health, Rome, Italy, Sep 2017. (Poster)
16. Hassan, M., R. Samir, T. Essam, and S. Megahed, "Biomonitoring of algal-bacterial system for wastewater treatment: Assessment towards better process control", 1st International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability, Spain, Oct 2016. (Oral presentation)
17. Hassan, M., T. Essam, A. S. Yassin, and A. Salama, "Optimization of rhamnolipid production by biodegrading bacterial isolates using Plackett-Burman design", *International Journal of Biological Macromolecules*, vol. 82, pp. 573-579, 2016. <https://doi.org/10.1016/j.ijbiomac.2015.09.057>
18. Hassan, M., A. Yassin, T. Essam, and A. Salama, "Optimized bio-surfactant production by organic pollutants biodegrading bacterial isolates", 3rd FUE International Conference of Pharmaceutical Sciences, Egypt, Feb 2015. (Oral presentation)
19. Hassan, M., A. Yassin, T. Essam, and A. Salama, "Optimization of biosurfactant production using organic pollutants biodegrading bacterial isolates", 2nd International Conference on Advanced basic and Applied sciences, Ain Sokhna, Egypt, April 2014. (Oral presentation)
20. Hassan, M., T. Essam, A. Yassin, and A. Salama, "Screening of Bio-Surfactant Production Ability among Organic Pollutants Degrading Isolates Collected From Egyptian

Environment", Journal of Microbial and Biochemical Technology, vol. 6, issue 4, pp. 195-201, 2014.

21. Hassan, M., A. Yassin, T. Essam, and A. Salama, "Screening of relevant biodegrading bacterial isolates for the production of biosurfactants", *3rd International Scientific Conference of the Faculty of Pharmacy, Cairo University*, Egypt, April 2012. (Poster)

XI. Theses and Projects

1. Noha Adel, Mariam Hassan, Rania Khattab, Yasser Ragab, "Exploring human/environmental microbiota for novel oral probiotic bacterial candidate(s)".
2. Marina Zoheir, Mariam Hassan, Mona Tawfik and Hamdallah Zedan, "Characterization of urate-degrading activity in environmental samples using culture-dependent and independent methods".
3. Mariam Hassan, Ahmed Eldesoky, Mai Abdelhalim, Shanaz Mohamed and Alex Mira, "Studying the immunomodulatory activity of three botanical extracts on the gut microbiota of healthy and immunosuppressed Wistar rats: Insights of the interplay between the gut microbiota and the immune system".
4. Mariam Hassan, Meredith Gartin and Erin Murphy "Bloody diarrhea from molecular level to sociodemographic level".
5. Toqa Elmansy, Mariam Hassan, Mahmoud Tawfik and Mona Tawfik, "Development of a molecular-based method for rapid and reliable detection of *Candida auris* and other common nosocomial pathogens".
6. Mohamed Taha, Mariam Hassan, Dalia Eldamacy and Ramy Aziz, "Molecular and computational investigation of the skin microbiota associated with pityriasis infection".
7. Sabah Ali, Mariam Hassan, Marwa Ibrahim, Tamer Essam and Khaled Elamry, "Metagenome based analysis of aflatoxin degrading bacteria isolated from poultry farm".

XII. Memberships in Professional Associations

Egyptian Pharmacist Syndicate (2009 – current)

XIII. Training and Workshops

Course title and content	Organized by	Year
Essentials of Integrated Education	Faculty and Leadership Development Center	2021
Critical Thinking	Faculty and Leadership Development Center	2020
Stress Management	Faculty and Leadership Development Center	2020
Persuasion and Influence Workshop	United States Department of State Alumni Office / USA Embassy in Cairo	2019

Social media and communications training / Research Communications	Federation of European Microbiological Societies (FEMS)	2019
Metagenomics Workshop	Center for Genome and Microbiome Research, Faculty of Pharmacy - Cairo University	2018
Acival: A tool for evidence-based research planning	The Researcher Academy On Campus team / Elsevier	2018
Health Privacy Issues for Researchers, Clinicians, Students and Instructors	Collaborative Institutional Training Initiative (CITI Program), Ohio University	2018
Information Privacy Security (IPS)	Collaborative Institutional Training Initiative (CITI Program), Ohio University	2018
The World Academy of Sciences for the advancement of science in developing countries / Bio Vision Alexandria.NXT 2018 (TWAS/BVA.NXT 2018) Program	TWAS Arab Regional Office (TWAS-ARO) and the Center for Special Studies and Programs (CSSP) at Bibliotheca Alexandrina	2018
Maximize your scientific impact while keeping your integrity	Faculty of Pharmacy, Cairo University	2017
The Do's and Don'ts in Publishing	Faculty of Pharmacy, Cairo University	2017
Metrics for Evaluation of Academic Performance	Faculty of Pharmacy, Cairo University	2017
Total Quality Management in Healthcare	Faculty and Leadership Development Center	2016
E-Learning	Faculty and Leadership Development Center	2016
Legal and Financial Aspects in University Environment	Faculty and Leadership Development Center	2016
Managing Time & Meetings	Faculty and Leadership Development Center	2015
Use of Technology in Teaching	Faculty and Leadership Development Center	2015
University Code of Ethics	Faculty and Leadership Development Center	2015
Communication Skills	Faculty and Leadership Development Center	2014
Conference Organization	Faculty and Leadership Development Center	2013
How to Present Scientific Data	German Academic Exchange Service-DAAD	2013
Bacterial Cell Factory BTC-011	Biotechnology Center-FOPCU	2013
The Credit Hour Systems	Faculty and Leadership Development Center	2013
Exam and Students Evaluation Systems	Faculty and Leadership Development Center	2013
International Publishing of Research	Faculty and Leadership Development Center	2012
Effective Presentation Skills	Faculty and Leadership Development Center	2012
Technology of Upstream Bioprocess BTC-009	Biotechnology Center-FOPCU	2012
Project Management	German Academic Exchange Service-DAAD	2012
Proposal Writing	German Academic Exchange Service-DAAD	2012

Bioinformatics BTC-003	Biotechnology Center-FOPCU	2012
Molecular Biology Practice BTC-002	Biotechnology Center-FOPCU	2011
The Canadian Pharmacy Skills - Therapeutics Lectures	Leslie Dan Faculty of Pharmacy, University of Toronto (video conference to Ahram Canadian University, Egypt)	2010
Institutional self-evaluation of higher education institutions	The National Authority for Quality Assurance and Accreditation of Education, Egypt (NAQAA)	2010
International Computer Driving License (ICDL)	ECDL Foundation	2008