

Mai Mahmoud Zafer, PhD

Department of Microbiology and Immunology
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Education:

Degree obtained	Dates
Ph.D. (Microbiology & Immunology) from Faculty of Pharmacy, Cairo University, Cairo, Egypt.	2010-2014
M. Sc. (Microbiology & Immunology) from Faculty of Pharmacy, Cairo University, Cairo, Egypt.	2006-2009
BSc (Pharmaceutical Sciences) from Faculty of Pharmacy, Cairo University, Cairo, Egypt.	1999-2004

Employment History:

Employer	Position	Dates (from-to)
Faculty of Pharmacy, Ahran Canadian University, Cairo, Egypt	Associate Professor (Microbiology and Immunology Department)	7/ 2019-current
Faculty of Pharmacy, Ahran Canadian University, Cairo, Egypt	Lecturer (Microbiology and Immunology Department)	7/ 2014-7/ 2019
Faculty of Pharmacy, Ahran Canadian University, Cairo, Egypt	Assistant lecturer (Microbiology and Immunology Department)	10/2012-7/ 2014
Faculty of Pharmacy, MSA University, Cairo, Egypt	Assistant lecturer (Microbiology and Immunology Department)	1/ 2010- 10/2012

Faculty of Pharmacy, MSA University, Cairo, Egypt	Teaching assistant (Microbiology and Immunology Department)	9/2016-1/ 2010
Department of Quality Control, DIAGSERA Company, Holding Company of Biological Products and Vaccines (VACSERA), Giza, Egypt	Pharmacist Monitoring of the Manufacturing facilities for DIAGSERA products. Testing of in-process and final product of several product lines for Quality Assurance release. Microbial and chemical testing of drug products and process intermediates to support manufacturing and stability.	2005-2006

Membership of professional associations:

Egyptian Pharmacist Syndicate

Egyptian Pharmaceutical Society

Teaching Experience

- Student demonstrating, supervision, lecturing, seminar leading, assessment.
- Teaching undergraduate pharmacy students practical and theoretical courses of Microbiology.
- The courses taught are: General Microbiology, Medical microbiology and Immunology
Pharmaceutical Microbiology, Pathology and Parasitology, Diagnostic Microbiology
Pharmaceutical Biotechnology and Public Health.
- Provide students with knowledge about exploring methods of controlling microorganisms in the
lab, hospital and the pharmaceutical company.
- Increase the student's awareness of laboratory diagnosis of infectious disease and
immunological reactions.
- Demonstrate the role of molecular biology and genetic engineering in development of biological
sciences.
- Supervising different research projects in different microbiological fields for senior students
which allow the student to acquire the skills of literature surveying, analyzing information,
interpreting, suggesting solution, reporting and demonstrating presentation.

Editor and Reviewer activity:

Editorial member Board of:

UK Journal of Pharmaceutical Sciences.

Peer Review Assignments:

1. Emergence of panresistant *Pseudomonas aeruginosa* strains: new clone ST1725 and high-risk clone ST233. Plos One journal.
2. Molecular characterization of *P. aeruginosa* isolates from patients with respiratory infection: resistance and virulence genes. Journal of Medical Microbiology.
3. Linezolid utilization may promote the development of linezolid-resistance in *Enterococcus faecalis*: a 5-year surveillance data in a tertiary-care hospital. Microbial Drug Resistance Journal (January 2018).
4. ARIC-D-19-00611
Clinical characteristics, antibiotic-resistant patterns and prognostic factors in cancer patients with nosocomial infections caused by extended-spectrum beta-lactamase-producing *Escherichia coli*: a retrospective study from 2013 to 2019
Antimicrobial Resistance & Infection Control
5. Research Article 7380740 titled "Molecular detection of carbapenemase-encoding genes in multidrug-resistant *Acinetobacter baumannii* strains isolated from clinical specimens obtained from Patients in OR Tambo District, Eastern Cape, South Africa. International journal of Microbiology.
6. Manuscript ID WKRO-2019-08-0967 entitled "Emergence of NDM-1 and OXA-48-like genes co-existence in carbapenem resistant *Klebsiella pneumoniae* clinical isolates from Egypt. African Health science.
7. JGAR-D-19-01089
Title: Genomic features of a polymyxin-resistant *Klebsiella pneumoniae* ST491 co-harboring blaCTX-M-8 and qnrE1 genes isolated from a hospitalized cat in São Paulo, Brazil
Journal of Global Antimicrobial Resistance
8. The clonal dissemination and carbapenem-resistance mechanism of *Serratia marcescens* in a tertiary hospital in Hangzhou, China. Infection and Drug Resistance Journal.

Graduate students mentoring activities:

Co-mentor on the following thesis projects:

Finished thesis project:

i- Ph.D. thesis projects:

“Clonal dissemination of multidrug resistant Enterobacteriaceae in Cancer patients in Egypt”; by Mai Mersal.

ii- Master’s thesis projects: 1. “Molecular Approach for Characterization of different Markers of Colistin resistance in Enterobacteriaceae in Cancer patients in Egypt”; Master thesis by Asmaa Abdul Hak.

Conferences& Workshops:

1. New Advances in Carbapenemases: Detection from Molecular to *MALDI-TOF*. Cairo, Egypt.3-4 December 2014.
2. Workshop: Pulsed Field gel Electrophoresis (BTC-007) held at Biotechnology center Faculty of pharmacy, Cairo University (29th January 2015).
3. Handle Antibiotics With Care. Microbiology and Immunology Department, Ahrm Canadian University, Cairo, Egypt. December 9, 2015. Participated in the organization.
4. Antimicrobial Resistance: Mechanisms, Novel Molecular Technology and Necessity to Stewardship. Cairo, Egypt 3-4 March 2016.
5. 15TH Annual Conference of EGSSO titled" Multidisciplinary approach for cancer Mangement", March 2016, Cairo, Egypt. **Oral presentation** titled "The threat of carbapenemase producing *E.coli* and *K.pneumoniae*"
6. Biovision Alexandria 2016 " New Life Sciences", 12-14 April 2016, Alexandria, Egypt.
7. Workshop: PCR Primer Basic Design & sequence data analysis. National Cancer Institute, Cairo, Egypt (August, 2016).
8. UNESCO Ethics teachers’training course. Academy of scientific research and technology of Egypt, Cairo, Egypt. 6-9 May 2018.
9. Workshop: Pharmaceutical vigilance scientific day-Ahrm Canadian University with coordination with Ministry of Health. May 2018.
10. Next Generation Sequencing in Microbiology "From Basic Laboratory Technique to Application in the Clinical Setting" Cairo, Egypt, 10-11 October 2018.
11. **The National Cancer Institute Annual Congress: Bridging Gaps in Oncology 2018(Cairo, Egypt on November 7-9, 2018).**Oral Presentation titled "Molecular epidemiology of carbapenemase-producing *Enterobacteriaceae* to detect the spread of Healthcare-associated infectious complications in cancer patients”
12. The XIIth International Conference of Clinical Pathology Department "Eminence of Lab Role in Diagnosis and Treatment" March 27-28, 2019 in Mansoura, Egypt. Oral presentation titled: Carbapenemase producing *Klebsiella pneumoniae*: The Killers.

Workshops at Ahram Canadian University:

1. Workshop: "How to Write Self- Study Report?" Faculty of Pharmacy-Ahram Canadian University-February 2014.
2. Workshop: "Pharmacy NARS and Program ILO's". Faculty of Pharmacy-Ahram Canadian University-March 2014.
3. Workshop: "Educational Programs and Courses specifications and Evaluation of Learning Outcomes ".National Authority for Quality Assurance and Accreditation of Education. September 2014.
4. Workshop: "Blended learning". The LOTUS Scholarship program. USAID. December 2014.
5. Workshop: "Risks of work environment on women's health during pregnancy and breastfeeding". Ahram Canadian University with coordination with Academy of scientific research and technology of Egypt. December 2015.
6. Workshop: "Strategic Planning" Faculty of Pharmacy-Ahram Canadian University-October 2018.
7. Workshop: "Gap analysis between B of pharmacy-ACU and New NARS" Faculty of Pharmacy-Ahram Canadian University-November 2018.
8. Workshop: "Writing Research projects" Faculty of pharmacy-ACU.

Conferences organized:

Organizing Committee: ACU First International Conference NTPMR 2016, Cairo, Egypt .May 2016 (Ahram Canadian University, Cairo, Egypt.28-29 May 2016.

Organizing Committee: The Second ACU International Pharmaceutical Conference (Challenges in future pharmaceutical trends) IPCACU-2018 (Ahram Canadian University, Cairo, Egypt.14-15 November 2018.

Research Interests:

The main areas of research are the molecular characterization of different genetic markers that play a role in antimicrobial resistance in Gram negative healthcare associated organisms.

Publications

1. Saad Y, **Zafer MM**, Amin AM, El-Daly M, Abdel Hamid M.(2010).High Prevalence of **Occult Hepatitis C in Egyptian Patients with Cryptogenic Hepatitis**. Kasr El Aini Medical journal, 16(2); 33-39.
2. **Zafer MM**, Al Agamy HM, El Mahallawy AH, Amin AM & Ashour SM. (2014). **Antimicrobial Resistance Pattern and Their Beta-Lactamase Encoding Genes among *Pseudomonas aeruginosa* Strains Isolated from Cancer Patients**. Biomed Research International, 2014/101635:1-8.

3. **Zafer MM**, El Mahallawy AH, Amin AM, Ashour SM & Al Agamy HM. (2014). **Characterization of Metallo- β -Lactamase producing *Pseudomonas aeruginosa* in Egypt.** Egyptian journal of Medical Microbiology, 23(1):69-74.
4. **Zafer MM**, Amin AM, El Mahallawy AH, Ashour SM & Al Agamy HM.(2014). **First report of NDM-1 producing *Pseudomonas aeruginosa* in Egypt.** International journal of infectious diseases *IJID* 2014, 29: 80-1.
5. **Zafer MM**, El Mahallawy AH, Al Agamy HM, Ashour SM & Amin AM.(2015). **Dissemination of VIM-2 producing *Pseudomonas aeruginosa* ST233 at tertiary care hospitals in Egypt.** BMC Infectious Diseases (2015) 15:122.
6. Mona wassef, Hadir El Mahallawy, **Mai Mahmoud Zafer***, DoaaGhaith and Rashaabdelhamid (2015). **Lab Based Surveillance of Multidrug Resistant *Pseudomonas aeruginosa* in Cairo University Hospitals, Egypt.** Journal of Microbiology & Experimentation(2015)2:2.
7. DoaaGhaith, **Mai Zafer**, Mohamed H AlAgamy , Essam J Alyamani , Omar Almoazzamy , Rayan Y. Booq . **The emergence of a novel sequence type of MDR *Acinetobacterbaumannii* from an ICU of an Egyptian Tertiary Care Hospital.**Annals of Clinical Microbiology and Antimicrobials (2017) 16:34.
8. Reem Mostafa Hassan, Doaa Mohammad Ghaith, *, Dalia Kadrylsmail ,**Mai Mahmoud Zafer.** **Reduced susceptibility of Enterococcus spp. isolates from Cairo University Hospital to tigecycline: Highlight on the influence of proton pump inhibitors.** Journal of Global Antimicrobial Resistance 12 (2018) 68–72.
9. RehamWasfi, Ola A. Abd El-Rahman, **Mai M. Zafer**, Hossam M. Ashour.**Probiotic Lactobacillus sp. inhibit growth, biofilm formation and gene expression of caries-inducing *Streptococcus mutans*.**J. Cell. Mol. Med. Vol XX, No X, 2018.
10. Hadir A. ElMahallawy, **Mai M. Zafer**, Magdy A. Amin, Mai M. Ragab& Mohamed H. Al-Agamy (2018) **Spread of carbapenem resistant Enterobacteriaceae at tertiary care cancer hospital in Egypt**, Infectious Diseases,DOI: 10.1080/23744235.2018.1428824
11. Mahmoud, M. H., Amin, M. A., Shebl, R. I., Mohamed, A. F., &**Zafer, M. M.** (2018). **Influence of subminimal inhibitory concentrations of some bioactive compounds on the biofilm formation ability and virulence factors of multiple drug resistant *Acinetobacterbaumannii* clinical isolates.** African Journal of Microbiology Research, 12(12), 275-283.

12. ElMahallawy H, **Zafer M**, Al-Agamy M, Amin M, Mersal M, Booq R, Alyamani E, Radwan S (2018) **Dissemination of ST101 blaOXA-48 producing Klebsiellapneumoniae at tertiary care setting.** J Infect Dev Ctries 12:422-428.
13. DoaaGhaith; **Mai Zafer**; daliakadry; mohamedAlagamy; Marie Bohol; Ahmed alqahtani; mohamedalahdal; sherifalnagdy; Islam youssif (2018). **First Reported Nosocomial Outbreak of Serratiamarcescens Harboring blaIMP-4 and blaVIM-2 in a Neonatal Intensive Care Unit in Cairo, Egypt.** Infection and Drug Resistance 11: 2211–2217.
14. DoaaGhaith, Reem Hassan, Mohamed Ez El-Din Dawoud, Mohamed Eweis, ReemMetwally&**Mai Zafer**(2019) **Effect of rifampicin–colistin combination against XDR Acinetobacterbaumannii harbouring blaOXA 23-like gene and showed reduced susceptibility to colistin at Cairo University Hospital, Cairo, Egypt,**Infectious Diseases, DOI: 10.1080/23744235.2018.1558369
15. **Al-hassan , L.,Zafer,M.M.& El-Mahallawy,H.** Multiple Sequence Types Responsible for Healthcare-associated Acinetobacter baumannii dissemination in a Single Centre in Egypt. **BMC infect DIS 19,829(2019).**
16. Genetic diversity of carbapenem-resistant Klebsiella pneumoniae causing neonatal sepsis in intensive care unit, Cairo, Egypt". **Doaa Ghaith, Mai zafer, Hala Mufeed, Sherif Elanwary, Salwa El Saban, Mohamed Alagamy, Marie Bohol, Ahmed Al-Qahtani, and Mohamed Alahdal.** European Journal of clinical Microbiology & Infectious Diseases, DOI10.1007/s10096-019-03761-2.
17. **Emergence of Colistin resistance in multidrug-resistant Klebsiella pneumoniae and Escherichia coli strains isolated from cancer patients.** [Mai Mahmoud Zafer*](#) , Hadir El-Mahallawy, [Asmaa Abdulhak](#), Magdy Amin, [Mohamed Alagamy](#) and Hesham radwan. Ann Clin Microbiol Antimicrob. 2019; 18: 40. doi: 10.1186/s12941-019-0339-4

Publications in process:

" **MALDI-TOF MS overcomes misidentification of the uncommon human pathogen Candida famata by routine phenotypic identification methods.** Doaa Ghaith, May AbdElfattah, Thoraya Hosny, Mai Zafer (Under review Annals of clinical Microbiology and Antimicrobials).

Abstracts:

1. **Mai Zafer**, Reem Hassan; DoaaGhaith; Dalia Ismail. **Effect of omeprazole on In-vitro activity of Tigecycline against different Enterococcus species in tertiary hospital in Egypt** (Poster presentation, 1st ACU international Conference of pharmaceutical sciences 2016, 6th October, Egypt) (Best poster presenter award).
2. Mona H. Mahmoud, Magdy A. Amin ,**Mai M. Zafer**, Aly M. Fahmy and Rania I. Shebl. **Effect of Subminimum inhibitory concentrations of different bioactive compounds on biofilm formation**

- and virulence factors of clinical isolates of *Acinetobacterbaumannii*** (Poster, 4th World Microbiologists Annual Conference 2016, Philadelphia, USA).
3. Leena Al-Hassan, **Mai Zafer**, Rasha M. Abdel Hamid, Hadir El-Mahallawy. ***A.baumannii* OXA-378 multidrug-resistant clone emerges in the clinical setting.** (Poster presentation, ECCMID 2017, 22-25 April, Vienna).
 4. Hadir El-Mahallawy, **Mai Zafer**, Mai Ragab, Magdy Amin, Mohamed Al-Agamy. **Molecular Epidemiology of Carbapenemase-producing Enterobacteriaceae to detect the spread of Healthcare-associated infectious Complications in Cancer Patients** (Poster, The National Cancer Institute Annual Congress: Bridging Gaps in Oncology 2018, Cairo, Egypt) (Best Oral Presentation Award).
 5. **Mai Mahmoud Zafer**, HalaMufeed, SherifElanwary, Salwa El Saban, DoaaGhaith. Emergence of carbapenem resistant *Klebsiellapneumoniae* recovered from neonates with late onset sepsis in an intensive care unit of Cairo University Hospital, Cairo, Egypt. (Poster presentation The Second ACU International Pharmaceutical Conference IPCACU-2018 , Ahram Canadian University, Cairo, Egypt. 14-15 November 2018.
 6. AsmaaAbdulhak, **Mai zafer**, Hadir El Mahallawy, Magdy Amin. **Plasmid mediated mcr-1 encoded colistin resistance in *Escherichia coli* and *Klebsiellaspp.* Clinical isolates in Egypt.**Poster presentation The Second ACU International Pharmaceutical Conference IPCACU-2018 ,Ahram Canadian University, Cairo, Egypt. 14-15 November 2018. Best poster presentation award.
 7. Hadir El-Mahallawy, **Mai Zafer**, Mai Mersal, Magdy Amin.**The role of class I integron in the transmission of carbapenem resistance in OXA-48 producing *Escherichia coli* clinical isolates.** Accepted in the paper poster session in ECCMID 2019, Amestrdam, April 13-15,2019.

Skills:

1. Software Skills

Excellent command of Microsoft word, Excel, Power Point and a skilled internet surfer.

Completed ICDL.

2. Languages

Excellent command of English language both spoken and written.

Completed TOEFL 2013

3. **Personal skills:** Leadership, ability to work under pressure, flexibility, reliability, good communication and presentation skills.

References

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- Professor Dr. Magdy Ali Amin

Professor of Microbiology and Immunology, Faculty of Pharmacy, Cairo University.

E-mail: magdy_biotek3@yahoo.com

- Professor Dr. Seif El Din Ashour

Professor of Microbiology and Immunology –faculty of pharmacy-Azhar University.

E-mail: seifashour@hotmail.com

- Professor DrHadir El Mahalawy

Professor and head of clinical pathology department, National Cancer Institute, Cairo University

E-mail: hadir38@hotmail.com

- Professor Mohamed Al Agamy

Professor of Microbiology and Immunology, Department of Pharmaceutics and Microbiology,

College of Pharmacy, King Saud University, 11451 Riyadh, Saudi Arabia.E-mail: malagamy@Ksu.edu.sa

, Elagamy71@yahoo.com

- Professor Dr Mona Wassef **Professor and head of department of Clinical Pathology department, Faculty of medicine, Cairo University** E-mail:mwassef1@yahoo.com.