

# Dr. Azza Mohamed Said Zakaria Hanafi



**Job Title:** Associate Professor at Microbiology and Immunology Department

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## PERSONAL DATA

- DATE OF BIRTH: 24 November 1972
- NATIONALITY: Egyptian
- MARITAL STATUS: Married.
- LANGUAGES: Excellent written and spoken command of English Language.

Holding the FCE (First Certificate of English) from Cambridge University.  
Arabic is the native language.

## EDUCATION

- Ph.D. in Pharmaceutical Sciences, Department of Pharmaceutical Microbiology, Faculty of Pharmacy, Alexandria University, EGYPT. **2006-now**
- Master in Pharmaceutical Sciences, Department of Pharmaceutical Microbiology, Faculty of Pharmacy, Alexandria University, EGYPT. **1999-2006**
- Bachelor in Pharmaceutical Sciences, Distinction of Honor, Faculty of Pharmacy, Alexandria University, EGYPT. **1995-1999**
- Graduated at the English Girls College, Alexandria, EGYPT. **1990**

## ACADEMIC EMPLOYMENTS

- Associate Professor of Microbiology and Immunology, Faculty of Pharmacy, University of Alexandria **2018 - now**
- Assistant Professor of Pharmaceutical Microbiology, Faculty of Pharmacy, University of Alexandria. **2006 - 2018**
- Academic advisor for Undergraduate students, Faculty of Pharmacy, University of Alexandria.
- Assistant Lecturer of Pharmaceutical Microbiology, Faculty of Pharmacy, University of Alexandria. **1999-2006**
- Demonstrator (teaching assistant) of Pharmaceutical Microbiology, Faculty of Pharmacy, University of Alexandria. **1995-1999**

## PHARMACY PRACTICE POSITIONS HELD

- Quality control microbiologist and researcher at Alexandria Company for Chemical Industries and Drugs.  
**Jan 1996 - March 1996**

## RESEARCH EXPERIENCES

- Post-doctoral researcher, Department of Microbiology and Immunology, Faculty of Pharmacy, University of Alexandria, Egypt.  
**2006-now**
- Post-doctoral researcher, Faculty of Pharmacy, King Saud University, Riyadh, Saudi Arabia.  
**2010-2015.**
- Scientific Supervisor of Master thesis' in Pharmaceutical Microbiology, Faculty of Pharmacy, University of Alexandria, Egypt.  
**2016-now**
- Full-time Ph.D. student, Department of Pharmaceutical Microbiology, Faculty of Pharmacy, University of Alexandria, Egypt. Thesis entitled: **Microbiological Studies on the Effect of Ascorbic Acid on the Activity of Some Antimicrobial Agents Against Multi-resistant Clinical Isolates**".  
**1999-2006**
- Full-time M. Sci. student, Department of Pharmaceutical Microbiology, Faculty of Pharmacy, University of Alexandria, Egypt. Thesis entitled: **"Adhesion of Some Microorganisms to Soft Contact lenses"**.  
**1996-1999**
- Intensive practical and theoretical postgraduate courses of Pharmaceutical Microbiology, Molecular biology, Antibiotics, Microbiological quality control, Faculty of Pharmacy, University of Alexandria.  
**2000-2002**
- Intensive postgraduate courses of computer, mathematics and statistics, physics and advanced instrumental analysis, Faculty of Pharmacy, University of Alexandria.  
**1996-1997**

## TEACHING EXPERIENCES

- Undergraduate Lectures in Antimicrobials.
- Undergraduate Lectures in Sterilization and sterility testing.
- Undergraduate Lectures in General Microbiology.
- Undergraduate Lectures in Microbial Contamination and Quality Control.
- Undergraduate Lectures in Antiseptics and Disinfectants.
- Postgraduate courses in Advanced Pharmaceutical Microbiology, Faculty of Pharmacy, University of Alexandria.
- Postgraduate courses in Advanced biotechnology, Faculty of Pharmacy, University of Alexandria.
- Supervisor of practical undergraduate courses of Pharmaceutical Microbiology, Faculty of Pharmacy, University of Alexandria.

## COMMITTEES

- Deputy vice dean for the community services and environmental development, Faculty of Pharmacy, Alexandria University. **November 2019**
- The coordinator of the first-year exam committee for the general program. **October 2018**
- The vice president of the financial committee of the clinical pharmacy program. **October 2018**
- Member of the committee responsible for the community services and environmental development, Faculty of Pharmacy, Alexandria University. **July 2018**
- Member of the Quality assurance committee, Department of Microbiology and Immunology, Faculty of Pharmacy, Alexandria University. **October 2017**
- Member of the academic advising committee for clinical pharmacy students, Faculty of Pharmacy, Alexandria University **October 2017**
- Member of the committee responsible for the preparation and presentation of the Faculty of Pharmacy annual conference, Faculty of Pharmacy, Alexandria University. **November 2016**
- Member of the committee responsible for the revision of the faculty academic curriculums Faculty of Pharmacy, Alexandria University. **November 2016**

## PROFESSIONAL DEVELOPMENT

- Participant in the 2<sup>nd</sup> annual conference of Microbiology and Immunology Department, faculty of Medicine, Beni-suef University, 8<sup>th</sup> July **2020** Entitled: **Covid-19 Pandemic, Challenges, Experiences and Prospect.**
- Poster presentation in the “PHS 2019: The International Conference on “Pharmaceutical & Healthcare Sciences”, held in Alexandria, Egypt (6th-7th November **2019**). Poster title: **“EVALUATION OF CICLOPIROX AS A VIRULENCE-MODIFYING AGENT AGAINST MULTIDRUG RESISTANT *PSEUDOMONAS AERUGINOSA* CLINICAL ISOLATES FROM EGYPT”**. Authors: Azza S. Zakaria, Eva A. Edward, and Nelly M. Mohamed.
- Participant in Intel Symposium For Science And Engineering Held In Biblotheca Alexandrina during 1-3 March 2018.

- Invited speaker to the 18<sup>th</sup> family medicine scientific conference 2015, Kuala Terengganu, Malaysia. **Talk** entitled: **ANTIBACTERIAL ACTIVITY OF DIFFERENT HONEY TYPES ALONE OR COMBINED WITH ANTIBIOTIC ON SOME PATHOGENIC BACTERIAL STRAINS ISOLATED FROM INFECTED WOUNDS IN KSA. (Publication no.9).**
- Invited speaker to the 4<sup>th</sup> International Conference and Exhibition on Pharmaceutics and Novel Drug Delivery Systems 2014, San Antonio, Texas, USA. **Talk** entitled: **A PROMISING APPROACH TO PROVIDE APPROPRIATE COLON TARGET DRUG DELIVERY SYSTEMS OF VANCOMYCIN HCL: PHARMACEUTICAL AND MICROBIOLOGICAL STUDIES. (Publication no.6)**
- Participant in the 3<sup>rd</sup> Saudi International Nanotechnology Conference 2014, Riyadh Saudi Arabia.

**lecture** entitled: **Silver Nanoparticles, A New Approach to Treat Wound Infections.**

- Participant in the Saudi International Biotechnology Conference 2012, Riyadh Saudi Arabia.

**lecture** entitled: **Gene Delivery and Gene Therapy.**

- Participant in the Saudi Hepatitis B Day 2012, Riyadh Saudi Arabia.

**lecture** entitled: **Hepatitis B Infection and Control.**

- Participant in the 10<sup>th</sup> Pan Arab Rheumatology Conference and 2<sup>nd</sup> Saudi Society of Rheumatology Conference 2012, Jeddah Saudi Arabia.

**lecture** entitled: **Communicable Infectious Diseases.**

#### INVITED TALKS/POSTERS BY OTHER CO-AUTHORS:

- Poster presentation in the 5<sup>th</sup> International Conference on Drug Discovery and Therapy, Dubai, UAE. **(Publication no.3).** **February 2013.**
- Invited speaker to the Graduate students annual scientific meeting, King Saud University, Riyadh, Saudi Arabia. **(Publication no. 4).** **November 2013.**
- Invited speaker and poster presentation in “24 th Dubai International Pharmaceuticals & Technologies Conference & Exhibition (DUPHAT)”. Dubai, UAE. **(Publication no.16).** Poster title: **“In Vitro and In Vivo Activity of Zabofloxacin and Older Fluoroquinolones against MRSA Isolates from Alexandria Main University Hospital, Egypt”**. Authors: Nelly M. Mohamed, Azza S. Zakaria, Eva A. Edward and Amany Abdel-Bary. **February 2019.**
- Poster presentation in the “25 th Dubai International Pharmaceuticals & Technologies Conference & Exhibition (DUPHAT)”, Dubai, UAE . Poster title: **“Proteomic Study of the Role of Antifungal Caspofungin in the Sensitization of MRSA Isolates to Zabofloxacin, a Novel Fluoroquinolone”**. Authors: Nelly M. Mohamed, Azza S. Zakaria, and Eva A. Edward.

**February 2020.**

## ATTENDED CONFERENCES/WORKSHOPS:

- **25-26/05/2009** Workshop entitled “Quality Standards and its application in higher education institutes” Faculty of Pharmacy, KSU, SA.
- **2-9/06/2009** Workshop entitled “Pulsed field Gel Electrophoresis”, Faculty of Pharmacy, KSU, SA.
- **20-21/10/2009** Workshop entitled “Tablet Manufacturing Technologies” Faculty of Pharmacy, KSU, SA.
- **14/12/2009** Lecture entitled “Diabetes and Mediterranean Diet” Faculty of Medicine, KSU, SA.
- **11/01/2010** Lecture entitled “Skin Health” Faculty of Medicine, KSU, SA.
- **4-5/06/2010** Workshop entitled “Learning Management system” Faculty of Pharmacy, KSU, SA.
- **6-7/11/2010** Workshop entitled “Real Time PCR” Faculty of Pharmacy, KSU, SA.
- **1-2/03/2011** Symposium entitled “Pharmacotherapy in The Ambulatory Care Setting “A Multidisciplinary Approach” King Fahd Medical City, Riyadh, SA.
- **5-7/06/2011** “1<sup>st</sup> Saudi pharmacoeconomics conference” King Saud Medical City, Riyadh, SA.
- **6/4/2015** Symposium entitled “Working Through Changes Creating a New Integrated Pharmacy Practice Model In Academic Hospitals”. King Saud Medical City, Riyadh, SA.
- **21/11/2016** Workshop entitled “Using Electron Microscope In Pharmaceutical Nanotechnology And Recent Medications” Faculty of Science, Alexandria, Egypt.
- **16/11/ 2017** The 5th Annual Scientific Conference of Faculty of Pharmacy, held at Faculty of Pharmacy, Alexandria University, Egypt.
- **9/7/2018** Workshop entitled “CellPress Journals awareness” Faculty of Pharmacy, Alexandria University, Egypt.
- **18/7/2018** Workshop entitled “Assessment: The real driver for Competency-based education in Pharmacy” workshop, Faculty of Pharmacy, Alexandria University, Egypt
- **5/11/2018** Workshop entitled “Flipping classroom and web-2tools” at Faculty of Pharmacy, Alexandria University, Egypt.
- **19/2/2020:** workshop entitled “Palliative Care Medicine – Workshop” at Faculty of Pharmacy, Alexandria University, Egypt.

## FLDC workshops attended:

- June 10-12, 2006 Code of ethics.
- June 17-19, 2006 Effective presentation skills.
- June 20-22, 2006 Teaching with technology.
- June 24-26, 2006 New trends in teaching.
- October 22-23, 2016 Managing crisis and disasters.
- October 17-18, 2016 Decision making and problem solving.

- October 19-20, 2016 Using international data bases.
- October 29-30, 2016 Exams system and Student assessment.
- October 26-27, 2016 Strategic Planning.
- November 26-27, 2016 International conferences arrangements.
- April 22-23, 2020 Competitive Research Projects Proposals
- April 28, 2020 University Laws and Regulations
- May 18-19, 2020 Executive Leadership development
- May 19-20, 2020 Leadership and Strategic Thinking
- November 26-27, 2016 International conferences arrangements.
- November 26-27, 2016 International conferences arrangements.

## ACADEMIC SUPERVISIONS

- M.Sc. thesis: **A study of the antimicrobial and anti-inflammatory activity of some selected probiotics *in vitro* and *in vivo*.**

Student: Mona Sherif Hassan El-Far

Department of Microbiology and Immunology, Faculty of Pharmacy, Alexandria University.

- M.Sc. thesis: **Antimicrobial activity of different generations of fluoroquinolones against *Pseudomonas aeruginosa* clinical isolated from Alexandria University Hospitals**

Student: Hadeer Hamdy Bassiouny Shaaban

Department of Microbiology and Immunology, Faculty of Pharmacy, Alexandria University.

- M.Sc. thesis: **Evaluation of the anti-quorum sensing activity of some selected compounds against uropathogenic *E. coli* clinical isolates**

Student: Hadeer Ali Morgan

Department of Microbiology and Immunology, Faculty of Pharmacy, Alexandria University.

## OTHER ACTIVITIES:

- Reviewer for the Internationally cited journal 'Journal of Microbiology, Biotechnology and Food Science'. **11/2019**
- Reviewer for the Internationally cited journal 'African Journal of Microbiology Research'.

**3/2015**

- Reviewer for the Internationally cited journal 'British Microbiology Research Journal'

**9/2015**

## PUBLICATIONS

1. **Azza S. Zakaria, Nahla A. Melake, Nayira Abdel Baky, Nouf M. El Rasheed and Nermin H. Ibrahim.** In Vitro And In Vivo Studies Of Antibacterial Effect Of Ceftriaxone Moxifloxacin Combination Against Methicillin Resistant Staphylococcus Aureus Biofilms Formed On Biomedical Implants. African Journal of Microbiology Research Vol. 6(25), pp. 5399-5409, 2012.
2. **Nahla A. Melake, and Azza S. Zakaria.** In Vitro Activity of Linezolid Alone And In Combination With Glycopeptides Against Methicillin-Resistant Staphylococcus Aureus. International Research Journal of Microbiology (IRJM) (ISSN: 2141-5463) Vol. 3(4) pp. 127-135, 2012.

3. **Mohamed I Attia, Awwad A Radwan, Azza S Zakaria, Maha S Almutairi and Soraya W Ghoneim.** 1-Aryl-3-(1H-Imidazol-1-Yl)Propan-1-OI Esters: Synthesis, Anti-Candida Potential And Molecular Modeling Studies. *Chemistry Central Journal*, 7:168, 2013.
4. **Mohamed I. Attia , Azza S. Zakaria, Maha S. Almutairi and Soraya W. Ghoneim.** In Vitro Anti-Candida Activity of Certain New 3-(1H-Imidazol-1-yl)propan-1-one Oxime Esters. *Molecules*, 18, 12208-12221, 2013.
5. **Mohamed I. Attia, Hazem A. Ghabbour, Azza S. Zakaria and Hoong-Kun Fun.** In Vitro Anti-Candida Activity And Single Crystal X-Ray Structure Of (1E)- 3-(1H-Imidazol-1-Yl)-N-(4-Nitrophenoxy)-1-Phenylpropan-1-Imine. *Bangladesh J Pharmacol*; 9: 43-48, 2014.
6. **Kadria A. Elkhodairy, Samar A. Afifi and Azza S. Zakaria.** A Promising Approach to Provide Appropriate Colon Target Drug Delivery Systems of Vancomycin HCL: Pharmaceutical and Microbiological Studies. *BioMed Research International* Volume 2014, Article ID 182197. 14 pages <http://dx.doi.org/10.1155/2014/182197>
7. **Nahla A. Melake, Azza S. Zakaria, Nermine H. Ibrahim, Magdy A. Salama and Amany Z. Mahmoud.** Prevalence of Agr Specificity Groups among in vitro Biofilm Forming Methicillin Resistant *Staphylococcus aureus* Strains Isolated from Nasal Carriers. *International Journal of Microbiological Research* 5 (2): 76-84, 2014.
8. **Nermin H. Ibrahim, Nahla A. Melake , Ali M. Somily , Azza S. Zakaria, Manal M. Baddour and Amany Z. Mahmoud.** The Effect Of Antifungal Combination On Transcripts Of A Subset Of Drug-Resistance Genes In Clinical Isolates Of *Candida* Species Induced Biofilms. *Saudi Pharmaceutical Journal*. 23, 55–66, 2015.
9. **Azza S. Zakaria.** Mechanism of Antibacterial Action of Honey on Pathogenic Wound Bacterial Strains: A Proteomic Analysis. *Int Res. J. Pharm.* 6 (11), 2015.
10. **Azza S. Zakaria, Samar A. Afifi, and Kadria A. Elkhodairy.** Newly Developed Topical Cefotaxime Sodium Hydrogels: Antibacterial Activity and In Vivo Evaluation. *BioMed Research International* Volume 2016, Article ID 6525163, 15 pages <http://dx.doi.org/10.1155/2016/6525163>
11. **AZZA S. ZAKARIA - DINA I. ABDEL MEGUID.** PROTEOMIC APPROACH OF THE MECHANISM OF ACTION OF *CAMELLIA SINENSIS* AND *SYZYGium AROMATICUM* ON HUMAN GUT PATHOGENS, *New Egyptian Journal of Microbiology*. May 2017 volume 47:66-88
12. **NERMIN H. IBRAHIM, FULWAH YAHYA ALQAHTANI, FADILAH SFOUQ ALEANIZY, RIHAF ALFARAJ, AMANY Z. MAHMOUD AND AZZA S. ZAKARIA.** FREQUENCY OF PLASMID-MEDIATED QUINOLONE RESISTANCE DETERMINANTS QNR AND QEPA AMONG CLINICAL ISOLATES OF *Escherichia coli* and *Klebsiella pneumoniae* PRODUCING EXTENDED- SPECTRUM  $\beta$ -LACTAMASES FROM SAUDI ARABIA INTENSIVE CARE UNITS. *International Journal of Microbiology Research*, Volume 9, Issue 8, 2017, pp.-924-929.
13. **REEM I. ALWABLI, AZZA S. ZAKARIA AND MOHAMED I. ATTIA.** Synthesis, Spectroscopic Characterization and Antimicrobial Potential of Certain New Isatin-Indole Molecular Hybrids. *MOLECULES*, 2017, 22, 1958.
14. **Maha S. Almutairi, Azza S. Zakaria, P. Primsa Ignasius, Reem I. Al-Wabli, Isaac Hubert Joe c, Mohamed I. Attia.** Synthesis, spectroscopic investigations, DFT studies, molecular docking and antimicrobial potential of certain new indole-isatin molecular hybrids: Experimental and theoretical approaches. *Journal of Molecular Structure* 1153 (2018) 333-345
15. **Maha S. Almutairi, Azza S. Zakaria, Reem I. Al-Wabli , I. Hubert Joe ,Ali S. Abdel hameed and Mohamed I. Attia.** Synthesis, Spectroscopic Identification and Molecular Docking of Certain N-(2-([2-(1H-Indol-2-ylcarbonyl) hydrazinyl] (oxo) acetyl} phenyl) acetamides and N-[2-(2-([2-(Acetylamino) phenyl] (oxo) acetyl} hydrazinyl)-2-oxoethyl]-1H-indole-2-carboxamides: New Antimicrobial Agents. *Molecules* 2018, 23, 1043; [doi:10.3390/molecules23051043](https://doi.org/10.3390/molecules23051043)
16. **Nelly M. Mohamed, Azza S. Zakaria, Eva A. Edward and Amani Abdel-Bary.** *In vitro* and *In vivo* activity of Zabofoxacin and other fluroquinolones against MRSA isolates from a University Hospital in Egypt. *Polish Journal of Microbiology*, 2019; 68(1): 59-69. <https://doi.org/10.21307/pjm-2019-007>
17. **Azza S. Zakaria, Eva A. Edward, and Nelly M. Mohamed.** Evaluation of Ciclopirox as a Virulence-modifying Agent Against Multidrug Resistant *Pseudomonas aeruginosa* Clinical Isolates from Egypt. *Microbiology and Biotechnology Letters*, 2019; 47(4), 651–66. <http://dx.doi.org/10.4014/mbi.1908.08002>
18. **Eva A. Edward, Nelly M. Mohamed and Azza S. Zakaria.** Resensitization of Fluconazole-Resistant Urinary *Candida* spp. Isolates by Amikacin through Downregulation of Efflux Pump Genes. *Polish Journal of Microbiology*, 2020; 69 (1): 73–84. <https://doi.org/10.33073/pjm-2020-010>



19. **Nelly M. Mohamed, Azza S. Zakaria and Eva A. Edward.** Antifungal Caspofungin Sensitizes MRSA Isolates Towards Zabofoxacin, A Proteomic Study. Journal of Pure and Applied Microbiology. 2020; 14(1): 559-572. <https://doi.org/10.22207/JPAM.14.1.58>
20. **Hend S. El-Allaky, Nadia A. Wahba, Dalia M. Talaat. Azza S. Zakaria.** EVALUATION OF ANTIMICROBIAL EFFECT OF TWO PROPOLIS FORMULAE ON STREPTOCOCCUS MUTANS AND CANDIDA ALBICANS: A RANDOMIZED CLINICAL TRIAL. Alexandria Dental Journal. 2020; Volume 45 Issue 2: 99-103. <https://doi.org/10.21608/adjalexu.2020.88445>
21. **Hend S. El-Allaky, Nadia A. Wahba, Dalia M. Talaat. Azza S. Zakaria.** Antimicrobial Effect of Propolis Administered through Two Different Vehicles in High Caries Risk Children: A Randomized Clinical Trial. Journal of Clinical Pediatric Dentistry, (2020) 44 (5): 289–29. **Pubmed ID:** [33181849](https://pubmed.ncbi.nlm.nih.gov/33181849/) <https://doi.org/10.17796/1053-4625-44.5.1>
22. **Azza S. Zakaria, Eva A. Edward, and Nelly M. Mohamed.** Genomic Insights into a Colistin-Resistant Uropathogenic Escherichia coli Strain of O23:H4-ST641 Lineage Harboring mcr-1.1 on a Conjugative IncHI2 Plasmid from Egypt. Microorganisms (2021) 9: 799. <https://doi.org/10.3390/microorganisms9040799>.
23. **Azza S. Zakaria, Mervat A. Kassem, Mona S. El Far and Eva A. Edward.** Characterization, in-vitro evaluation of probiotic potential and antagonistic activity of selected lactic acid bacteria strains isolated from natural origin against some human pathogens. Bull. Pharm. Sci., Assiut University (2021). 44 (1) :225-241. <https://doi.org/10.21608/BFSA.2021.174149>