

Amr Ali Abass Ahmed Hemeda

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PROFESSIONAL SUMMARY

Lecturer in Microbiology and Immunology with a PhD from Cairo University and more than 11 years of academic experience in teaching, research, and quality assurance. Research interests include microbial biotechnology, metagenomics, molecular genetics, antimicrobial resistance, and host-microbe interactions. Recipient of the **2025 Best Research Article Award** and **former research intern at Oklahoma State University**. Experienced in undergraduate supervision, curriculum delivery, molecular biology techniques, bioinformatics, and accreditation activities.

EDUCATION

- **PhD in Microbiology and Immunology**
Faculty of Pharmacy, Cairo University, Egypt (2025).
- **Intern**
Department of Microbiology and Molecular Genetics, Oklahoma State University, Stillwater, OK, USA (Jan 2023 - May 2023).
- **Master's in degree in Microbiology and Immunology**
Faculty of Pharmacy, Cairo University, Egypt (2020).
- **Bachelor of Pharmaceutical Sciences & Pharmaceutical Industries**
Future University in Egypt (FUE), Cairo, Egypt (2014) - Graduated with Honors.

Professional Positions & Expertise

Lecturer, Department of Microbiology and Immunology, Faculty of Pharmacy and Drug Technology, Egyptian Chinese university, Egypt | Sep 2026 – Present

Lecturer, Department of Microbiology and Immunology, Faculty of Pharmacy, Future University in Egypt (FUE) | Dec 2025–Aug 2026

- Design and deliver undergraduate lectures, tutorials, and laboratory courses in **Medical Microbiology, Biotechnology, and Information Technology**, integrating current scientific advances and evidence-based teaching practices.
- Conduct research in microbial biotechnology, metagenomics, molecular genetics, and microbiome science, with a focus on the discovery and characterization of novel carbohydrate-active enzymes (CAZymes).
- Supervise undergraduate research and graduation projects, mentoring students in experimental design, laboratory techniques, scientific writing, and data analysis.

- Serve as a member of the Faculty Quality Assurance Unit, contributing to curriculum development, course assessment, and institutional accreditation activities.
- Contribute to the planning and organization of the 4th, 5th, and 6th International Conference of Pharmaceutical Sciences at Future University in Egypt.

Assistant Lecturer, Department of Microbiology and Immunology, Faculty of Pharmacy, Future University in Egypt (FUE) | Sep 2020–Dec 2025

- Conducted PhD research in metagenomics and microbial biotechnology, leading to the discovery and characterization of a novel GH130 enzyme with exclusive xylanase activity, published in the *Journal of Industrial Microbiology and Biotechnology*.
- Completed an international research internship at Oklahoma State University through the USAID Higher Education Initiative (HEI-GSP), applying metagenomic and bioinformatic approaches to discover and characterize microbiome-derived carbohydrate-active enzymes.
- Assisted in delivering undergraduate lectures, tutorials, and laboratory courses in microbiology and immunology.
- Supervised undergraduate graduation projects and mentored students in laboratory techniques, experimental design, and scientific writing.

Teaching Assistant, Department of Microbiology and Immunology, Faculty of Pharmacy, Future University in Egypt (FUE) | May 2015–Sep 2020

- Conducted research on host genetic polymorphisms associated with HCV-induced liver fibrosis, resulting in peer-reviewed publications in *Viruses* and the *Future Journal of Pharmaceutical Sciences*.
- Applied molecular biology techniques, including DNA extraction, PCR, gene polymorphism analysis, and haplotype analysis, to investigate genetic determinants of disease progression.
- Delivered practical laboratory sessions in microbiology and immunology while supporting undergraduate teaching, laboratory management, and student assessment.
- Assisted in the preparation of teaching materials and implementation of microbiological quality assurance procedures.

Part-Time Teaching Assistant, Department of Microbiology and Immunology, Faculty of Pharmacy, Future University in Egypt (FUE) | Sep 2014–May 2015

- Assisted in undergraduate laboratory teaching and demonstration sessions in microbiology.
- Supported practical training, laboratory preparation, and student instruction in basic microbiological techniques.

Community Pharmacist, El-Nawawi Pharmacies | Sep 2014–May 2015

- Dispensed prescription and over-the-counter medications while providing evidence-based patient counseling on medication use, dosage, and safety.
- Promoted rational medication use through patient education and adherence counseling in accordance with pharmaceutical care standards.

PUBLICATIONS AND CONFERENCES

1. **“Metagenomic mining unveils a novel GH130 enzyme with exclusive xylanase activity over a wide temperature and pH ranges”**. Amr A. Hemeda, Sara A Zahran, Marwa Ali-Tammam, Menna A Ewida, Mona T Kashef, Aymen S Yassin, Avishek Mitra, Noha H Youssef, Mostafa S Elshahed. Journal of Industrial Microbiology and Biotechnology, 2025, 52.
2. **“Impact of IL10, MTP, SOD2, and APOE Gene Polymorphisms on the Severity of Liver Fibrosis Induced by HCV Genotype 4”**. Amr A. Hemeda, Amal Ahmad Mohamed, Ramy Karam Aziz, Mohamed S. Abdel-Hakeem and Marwa Ali-Tammam. Viruses, 2021, 13, 714.
3. **“Body mass index (BMI) and alphafetoprotein (AFP) level correlate with the severity of HCV-induced fibrosis in a cohort of Egyptian patients with chronic HCV”**. Amal Ahmed Mohamed, Amr A. Hemeda, Ramy Karam Aziz, Mohamed Salaheldin Abdel- Hakeem and Marwa Ali-Tammam. Future Journal of Pharmaceutical Sciences, 2020, 6:71.
4. **"Association of IL-10 and MTP gene polymorphisms with progression of HCV- Induced liver fibrosis".5th FUE International Conference of Pharmaceutical Sciences (5th ICPS), Cairo, Egypt, January 28-30, 2019. Poster: Amr A.Hemeda, Amal Ahmed Mohamed, Ramy K. Aziz, Mohamed S.Abel Hakeem and Marwa Ali-Tammam.**
5. **"Association of IL-10 and MTP gene polymorphisms with severity of HCV- Induced liver fibrosis in an Egyptian Cohort". Canadian liver meeting (CLM), Montreal Quebec, Canada, May 24-26, 2019. Poster: Amr A. Hemeda, Amal Ahmed Mohamed, Ramy K. Aziz, Mohamed S.Abel Hakeem and Marwa Ali-Tammam.**

Grants, Recognition & Awards

- **2025: Best Published Research Article Award, Department of Microbiology and Immunology, Faculty of Pharmacy, Future University in Egypt (FUE), for the publication "Metagenomic mining unveils a novel GH130 enzyme with exclusive xylanase activity over a wide temperature and pH ranges."**
- **2022–2023: USAID Higher Education Initiative (HEI), Graduate Scholarships for Professionals (GSP) Scholarship (USD 20,000), awarded through a competitive national program funded by the United States Agency for International Development (USAID) to support international research training at Oklahoma State University, USA.**

WORKSHOPS / SEMINARS / CONFERENCES ATTENDED

- MARC webinar series entitled: " **The complex genetics of aging& Alzheimer's Disease**", Speaker: Prof. Rob Williams, Webinar organized by MARC, Eva Pharma, 31st of March 2026.
- "**Decoding Human Attachment: Where Pharmacology Meets Neuropsychology**", workshop organized by faculty of Pharmacy, FUE, February 15, 2026.
- "**Industrial fellowship in vaccine manufacturing**", Event and workshop organized by Faculty of Pharmacy, FUE, 10th of February 2026.
- "**What is a Review paper & How to write one**", Health care faculty at Saxony Egypt University SEU. 5th of February 2026, Cairo, Egypt.
- "**Filling the New template of the course report**", organized by Faculty of Pharmacy, FUE, 22nd of December 2025.
- "**AI in Academia**", workshop organized by faculty of Pharmacy, FUE, 17th of December 2025.
- "**The Human Microbiome in Health and Disease**" lecture, Speaker: Dr. Mohamed abu donia, organized by Faculty of Pharmacy, FUE, 27th of November 2025.
- "**Bench to Bedside Diabetes Care: Biomarkers and Clinical Practice Across the Globe**", Online Webinar, Labroots, 14th of November **2025**.
- "**The wild Western blot: The good, the bad, and the ugly**", Online Webinar, Labroots, 13th of November **2025**.
- "**The Automation Conversation: What Pharma and Flow Cores Can Learn from Each Other**", Online Webinar, Labroots, 13th of November **2025**.
- "**Time Management and Soft Skills** " online workshop, organized by faculty of Pharmacy, FUE, 24th of September 2025.
- "**Computational Enzyme Design: Engineering New-to-Nature Biocatalysts**", research seminar, Speaker: Dr. Wael Elaily, organized by faculty of Pharmacy, FUE, 24th of August, 2025.
- "**Artificial Intelligence in Higher Education**", DAAD Kairo Akademie at the premises of Future University in Egypt. 21st of May **2024**, Cairo, Egypt.
- "**Precision Medicine**", Genomics, Genetics & Molecular Diagnostics Virtual Event series 2024, Labroots, 15th of May **2024**.
- **Attending the 6th FUE International Conference of Pharmaceutical Sciences**, 14-15 February 2024, Cairo, Egypt.
- Participating in the **Organizing committee** of the 6th FUE International Conference of Pharmaceutical Sciences, 14-15 February 2024, Cairo, Egypt.
- **Attending the International Pharmaceutical Federation (FIP)**, 24 January 2024, Digital Event.

- **"Insights into Cancer genomics via COSMIC v98"**, Online Webinar, Labroots, 12th of July **2023**.
- **"Real time PCR for molecular detection & research of infectious disease pathogens beyond SARS-COV-2"**, Online Webinar, Labroots, 6th of October **2022**.
- **"Basic Principles of Modern Vaccinology"**, Science Talks, Faculty of Pharmacy Helwan University, 10th of October **2022**.
- **"Genetics Virtual week 2022"**, Online, Labroots, 22nd of April **2022**.
- **"Self- Management"**, DAAD Kairo Akademie at the premises of Future University in Egypt. 28th of October **2021**, Cairo, Egypt.
- **"Microbiology Virtual week 2021"**, Online, Labroots, 12th of September **2021**.
- **"Proposal Writing for Master & PhD Candidates"**, DAAD Kairo Akademie at the premises of Future University in Egypt. 25th of August **2021**, Cairo, Egypt.
- **"3rd Egyptian International Conference on Microbiota & Microbiome in Health & Disease"**, 26th- 27th November **2021**, Online Conference.
- **"Understanding Medical Research: Your Facebook Friend is Wrong"**, Online non-credit course authorized by Yale University, **Coursera**, 23rd April **2021**.
- **"First Annual Phage International Conference in Egypt"**, 12th – 13th March **2021**.
- **"2nd Egyptian International Conference on Microbiota & Microbiome in Health & Disease"**, 26th- 27th November **2020**, Online Conference.
- **"University Exams and Digital Question Banks"**, DAAD Kairo Akademie at the premises of Future University in Egypt. 7th of December **2020**, Cairo, Egypt.
- **Participating** in the Organizing committee of the **5th FUE International Conference of Pharmaceutical Sciences**, 28-30 January **2019**.
- **"Constructive assessment of learning"**, DAAD Kairo Akademie at the premises of Future University in Egypt. 22nd of March **2018**, Cairo, Egypt.
- **"Participating** in the Organizing committee of the **4th FUE International Conference of Pharmaceutical Sciences**, 31st – 2 February **2017**.
- **"Bioinformatics Workshop"** by Dr. Amro Hanora, PhD. Associate Professor & Head of Microbiology & Immunology department, Suez Canal University. Held in Future University, September **2015**.
- **Participating** in the Organizing committee of the **3th FUE International Conference of Pharmaceutical Sciences**, 9-11 February **2015**.

Languages

- **Arabic: Native.**
- **English: Fluent.**

TECHNIQUES / SKILLS

Molecular Biology

- DNA extraction and purification
- PCR
- Electrophoresis
- Gene polymorphism analysis

Bioinformatics

- Protein database construction
- Genome analysis
- Comparative genomics
- Metagenomic analysis

Statistical Analysis

- GraphPad Prism
- Data visualization
- Biostatistics

REFERENCES

Prof. Mostafa Elshahed, Ph.D., Professor of Microbiology and Molecular Genetics, Oklahoma State University, Stillwater, Oklahoma, USA.

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Prof. Aymen Yassin, Ph.D., Microbiomics and Culturomics Core Facility Manager, Oklahoma State University, Stillwater, Oklahoma, USA. Professor of Microbiology and Immunology, Faculty of Pharmacy, Cairo University.

Email: aymen.yassin@pharma.cu.edu.eg

Prof. Marwa Raafat, Ph.D., Head of Department of Microbiology and Immunology, Faculty of Pharmacy, Future University in Egypt (FUE).

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