

# AHMED MOHAMED FATHI MOHAMED, MSc.

Aspiring Biochemistry Researcher

## PROFILE

I'm an aspiring biochemist with a Master's degree in pharmaceutical sciences and extensive experience in molecular biology techniques, including western blotting, PCR, ELISA, and cell culture. My additional strengths include outstanding scientific writing and communication abilities, as well as strong presentation skills. I also gained extensive teaching experience at the University of Minia in Egypt, where I participated in biochemistry classes for Pharm. D. students and delivered several scientific seminars to highly experienced audiences. I am eager to further my expertise and contribute to cutting-edge research in molecular biology and biomedicine through the International PhD Programme (IPP) at the Institute of Molecular Biology (IMB) in Mainz, Germany.

## CONTACT

### AFFILIATION:

Teaching assistant of biochemistry, Department of biochemistry, Faculty of Pharmacy, Minia University, Minia, Egypt

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## EDUCATION

### **Master's Degree of Pharmaceutical Sciences (Biochemistry)**

**2019 – 2023**

Faculty of pharmacy, Minia University, Minia, Egypt

Dissertation title: "A Study on the Possible Protective Effect of Blackberry Leaves Extract on Hepatic Ischemia Reperfusion Injury in Rats"

Advisors: Prof. Usama Ramadan Abdelmohsen, Prof. Maiiada Hassan Nazmy, Dr. Shaimaa waaz Amgad

### **Bachelor's degree of Pharmaceutical Sciences**

**2014 – 2019**

Faculty of pharmacy, Minia University, Minia, Egypt

- Graduated with a cumulative GPA of 3.9/4.0, Ranked the 1<sup>st</sup> student in my class (450 students).
- Maintained an exceptional academic record, earning dean's list honors each semester throughout my studies.

## REASERCH EXPERIENCE

### **Graduate Research Assistant, Nile Can Molecular Biology Laboratory**

**November 2023 - Present**

Faculty of pharmacy, Minia University, Minia, Egypt

- Applied advanced molecular biology techniques such as qPCR, Western blotting to investigate gene function, resulting in a 20% increase in data accuracy for subsequent experiments.
- Performed cell culture, DNA/RNA extraction, PCR amplification, gel electrophoresis, DNA/RNA Sequencing and various cell-based assays to support +5 ongoing research projects.
- Collaborated with lab members on research projects, contributing to experimental design, data collection, and experimental data analysis using statistical software e.g., SPSS, GraphPad Prism and R which improved project timelines by 30%.

### **Graduate Research Assistant, Department of Biochemistry**

**June 2021 - October 2023**

Faculty of pharmacy, Minia University, Minia, Egypt

- Master's research project focused to investigate the potential protective effect of blackberry-loaded silver nanoparticles on hepatic ischemia/reperfusion injury in rats.
- Utilized various biochemical and molecular techniques including spectroscopy, western blotting, and Immunohistochemistry to elucidate the underlying molecular mechanisms.
- Developed and characterized a nano-formulation for site-specific delivery of blackberry leaves extract loaded silver nanoparticles targeting hepatocytes.
- Applied comprehensive virtual screening and molecular dynamics simulation to investigate potential molecular interactions and mechanisms of key bioactive compounds in blackberry leaves extract, identifying their role as potential PLA2 inhibitors.

### **Graduate Research Assistant, Department of Biochemistry**

**September 2020 - May 2021**

Faculty of pharmacy, Minia University, Minia, Egypt

- Contributed to a comprehensive review article on the innate and adaptive immunopathogeneses in viral hepatitis and their crucial role in the development of hepatocellular carcinoma.
- Assisted in the literature review, data analysis, and manuscript preparation, culminating in a successful shared first-authored publication in the journal *Cancers*.

## TEACHING AND PROFESSIONAL EXPERIENCE

### **Teaching Assistant, Biochemistry Department**

**November 2019 – Present**

College of Pharmacy, Minia University, Egypt

- Assisting in teaching undergraduate biochemistry courses, developing and grading exams, assignments, and lab reports.
- Conducting hands-on laboratory sessions, providing individualized guidance and feedback to students.
- Developing engaging demonstrations and interactive learning activities to enhance students' understanding of complex concepts.
- Mentoring and supervising undergraduate students in the biochemistry research laboratory.

### **Community Pharmacist, Minia, Egypt**

**June 2019 – Present**

- Counseling over 100 patients on the safe use of over-the-counter and prescription medications, addressing concerns related to drug efficacy, side effects, and biochemical mechanisms of action.
- Leading patient education initiatives that reached 200 community members, focusing on lifestyle modifications and dietary supplements, resulting in a 50% improvement in patient adherence rates to recommended health practices.
- Participating in community health screenings, including cholesterol, blood glucose, and hypertension tests, and analyzing results for 250+ individuals to recommend appropriate interventions based on biochemical biomarkers.

## PUBLICATIONS

- **Fathi, Ahmed M.**, Shaimaa Waz, Eman Alaaeldin, Nisreen DM Toni, Azza AK El-Sheikh, Ahmed M. Sayed, Usama Ramadan Abdelmohsen, and Maiiada H. Nazmy. "Blackberry-loaded AgNPs attenuate hepatic ischemia/reperfusion injury via PI3K/Akt/mTOR pathway." *Metabolites* 13, no. 3 (2023): 419.
  - **Journal:** *Metabolites*                      **Impact factor:** 3.5                      **Citations:** 6
- Zaki, Marco YW, **Ahmed M. Fathi**, Samara Samir, Nardeen Eldafashi, Kerolis Y. William, Maiiada Hassan Nazmy, Moustafa Fathy, Upkar S. Gill, and Shishir Shetty. "Innate and adaptive immunopathogenesis in viral hepatitis; crucial determinants of hepatocellular carcinoma." *Cancers* 14, no. 5 (2022): 1255.
  - **Journal:** *Cancers*                      **Impact factor:** 4.5                      **Citations:** 39

## EXTRACURRICULAR ACTIVITIES

### **Life Makers Organization:**

**2010 – 2014**

Mallawi, Minia Governorate, Egypt

- Actively engaged in various initiatives aimed at community development and social impact.
- Volunteered for events such as blood donation drives, health awareness campaigns, and environmental clean-up projects as well as contributed to fundraising efforts to support underprivileged communities.
- Covered both media coverage and communication tasks, including graphic design, social media updates, and content creation.

### **EPSF (Egyptian Pharmaceutical Students' Federation):**

**2014 – 2019**

College of Pharmacy, Minia University, Egypt

- Engaged in national and international pharmaceutical conferences and workshops, expanding my knowledge and networking opportunities.
- Participated in scientific research projects and publications, fostering a passion for scientific inquiry.
- Cooperated with fellow students to organize academic events, including seminars and symposiums, to promote scientific exchange and critical thinking.

### **Pharmacy Students Association at Minia University:**

**2015 – 2019**

College of Pharmacy, Minia University, Egypt

- Took an active role in organizing conferences and sessions for fellow pharmacy students.
- Collaborated with faculty members to bridge the gap between academia and industry, providing students with practical insights and career guidance.

## PROFESSIONAL MEMBERSHIPS

Member, Quality Assurance Unit, College of Pharmacy, Minia University

**2020 – Present**

- Ensured adherence to quality standards and regulatory guidelines in laboratory practices.
- Monitored and maintained laboratory equipment and instruments.
- Joined in internal quality audits and implemented corrective actions.

## AWARDS AND HONORS

- International Scientific Publishing Award, Minia University, 2024
- International Scientific Publishing Award, Minia University, 2023
- Excellence Honor for the Top student in the class, Minia University, 2019
- The Best Poster Honor for Graduation Project in Pharmaceutics Class, College of Pharmacy, 2019
- The Best Natural Pharmaceutical Preparation Honor for Graduation Project in Applied Pharmacognosy Class, College of Pharmacy, 2019
- The Best Poster Honor for Graduation Project in Biochemistry Class, College of Pharmacy, 2018

## SKILLS

### Technical Skills:

- Proficient in a wide range of biochemistry lab techniques, including Western Blotting, PCR, ELISA, immunohistochemistry, cell culture, DNA/RNA sequencing, spectroscopy, and chromatography.
- Proficient in animal handling techniques, including administration of drugs via various routes. Experienced in conducting minor surgical procedures and monitoring animal health and behavior throughout experimental protocols.
- Experienced in molecular docking and molecular dynamic simulation using software such as Pymol, PyRx, NAMD and VMD.
- Experienced in data analysis using software such as SPSS, GraphPad Prism, RevMan, and R.
- Adept in conducting systematic reviews and meta-analyses.
- Skilled in graphic design and scientific visualization using Adobe Photoshop, BioRender, and Canva.
- Adept in Microsoft Office Packages (Word, PowerPoint, Excel) and presentation design using Prezi.

### Instructional & Presentation Skills (Teaching Skills):

- Exceptional ability to deliver clear, engaging, and interactive demonstrations of biochemistry techniques and concepts.
- Skilled in translating complex theoretical concepts into practical, hands-on learning experiences.
- Experience in providing individualized feedback and guidance to students during laboratory exercises.
- Skilled in using educational technology and multimedia tools to enhance the learning environment.

### Collaboration & Communication:

- Excellent communication skills to effectively collaborate with faculty, academic staff, and students.
- Demonstrated ability to work as part of a multidisciplinary team to support research objectives.
- Proficient in providing clear and concise explanations, both verbally and in writing.
- Empathetic approach to understanding and addressing student concerns or challenges.

### Laboratory & Equipment Management:

- Skilled in maintaining and troubleshooting biochemistry equipment and laboratory supplies.
- Experienced in ensuring a safe and organized learning environment for students.
- Proactive in identifying opportunities for improving the biochemistry laboratory setup and resources.
- Experience in inventory management and procurement of necessary materials.

## REFERENCES

**Moustafa Fathy Ramadan**, Professor and Biochemistry Department Head  
College of Pharmacy, Minia University, Egypt  
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**Usama Ramadan Abdelmohsen**, Professor and Pharmacognosy Department Head  
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**Marco Youssef William Zaki**, Associate Professor and Nile Can Laboratory Head,  
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