

Mohamed Ahmed Mahmoud Salem, PhD

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🔗 Google Scholar: <https://scholar.google.com/citations?user=QYhbRtsAAAAJ&hl=en>

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PROFESSIONAL SUMMARY

- Highly motivated lecturer and researcher with a **PhD in Pharmacology and Toxicology** and nearly **ten years of experience** in teaching, academic research, student mentorship, and delivering Pharmacology and Toxicology courses in English using student-centered and blended learning approaches.
 - Experienced in **curriculum-aligned teaching, student assessment**, academic advising, and academic support consistent with **Assistant Professor responsibilities**.
 - Actively engaged in pharmacological and translational research, with **peer-reviewed publications** in internationally indexed journals and **international research training at Oklahoma State University Center for Health Sciences**.
 - Active researcher in **mechanistic, molecular and translational pharmacology** with expertise in **laboratory animal models**, neuroinflammation, neurodegenerative and neuroimmune disorders, and drug repositioning. Experienced in in vivo and **in vitro** experimental methodologies, animal handling, behavioral assessments, and translational drug discovery.
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EDUCATION

- **PhD in Pharmacology and Toxicology**
Faculty of Pharmacy, Cairo University, Egypt | *January 2026*
 - **MSc in Pharmacology and Toxicology**
Faculty of Pharmacy, Cairo University, Egypt | *January 2022*
 - **BSc in Pharmaceutical Sciences and Pharmaceutical Industries (with Honors)**
Faculty of Pharmacy, Future University in Egypt | *June 2016*
***Ranked 10th, cGPA: 3.84/4**
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TEACHING EXPERIENCE

- **Lecturer** | Department of Pharmacy Practice, Faculty of Pharmacy and Drug Technology, Egyptian Chinese university, Egypt | **September 2026 – Present**
- **Lecturer** | Department of Pharmacology & Toxicology, Faculty of Pharmacy, Future University in Egypt, Egypt | **January 2026 – August 2026**
 - Design, develop, and deliver engaging lectures and tutorials in Pharmacology and Toxicology.
 - Apply innovative and student-centered teaching methods, including blended and online learning tools, to enhance student engagement and learning outcomes.
 - Assess student performance, provide constructive feedback, and contribute to academic advising and mentorship for professional development.

- Contribute to curriculum delivery and continuous improvement of teaching and learning outcomes.
- Participate in course evaluation and continuous quality improvement activities aligned with accreditation standards.

➤ **Assistant Lecturer** | Department of Pharmacology & Toxicology, Faculty of Pharmacy, Future University in Egypt, Egypt | **January 2022 – December 2025**

➤ **Teaching Assistant** | Department of Pharmacology & Toxicology, Faculty of Pharmacy, Future University in Egypt, Egypt | **September 2016 – December 2021**

- Delivered lectures, tutorials, and laboratory practical sessions in Pharmacology and Toxicology.
- Supported course design and preparation of educational materials, syllabi, and learning resources.
- Participated in examinations, grading, and student assessment activities.
- Assisted in curriculum delivery and implementation of student-centered teaching approaches.
- Provided academic mentoring and small-group or individual student support.

RESEARCH EXPERIENCE

Doctoral Research (PhD)

Title: Modulation of neuroinflammation and demyelination as therapeutic targets in the experimental autoimmune encephalomyelitis (EAE) rat model.

- Investigated the mechanistic role of **α 2-adrenergic receptor agonist** as potential therapeutic agent in **experimental multiple sclerosis**.
- Performed **animal handling, drug administration, neurological clinical scoring, behavioral assessments**, tissue collection, brain dissection, and biological sample preparation for mechanistic studies.
- Performed molecular analysis including **ELISA and qRT-PCR**.
- Applied translational pharmacology approaches to study **neuroimmune signaling pathways** in CNS disorders.

Master's Research

Title: Possible Modulatory Effect of **Tadalafil and Bergapten** on Experimentally Induced **Cognitive Impairment** in Mice.

- Examined the neuroprotective potential of tadalafil and bergapten in a streptozotocin (STZ)-induced **Alzheimer's disease mouse model**.
- Conducted **laboratory animal handling, STZ administration, pharmacological treatments, behavioral testing**, tissue harvesting, and molecular analyses.
- Conducted molecular analyses including **ELISA, Western blotting, and qRT-PCR** on brain tissues.
- Investigated neuroprotective and neuroinflammatory signaling pathways using **in vivo pharmacological approaches**.

INTERNATIONAL RESEARCH TRAINING

Research Intern (Exchange Visitor)

Department of Pharmacology & Physiology, **Oklahoma State University Center for Health Sciences, USA | Jan – May 2023**

- Collaborated with multidisciplinary research teams and contributed to the design and interpretation of translational neuroinflammation studies.
- Conducted in vitro experiments using **human microglial cell cultures** to investigate neuroinflammatory mechanisms.
- Performed molecular and biochemical assays including **MTT cytotoxicity assay, ELISA, PCR, and BCA protein quantification.**
- Investigated the effects of novel anti-inflammatory compounds with relevance to neuroimmune and neurodegenerative disorders.
- Applied statistical analysis and data visualization using GraphPad Prism for experimental interpretation.
- Actively participated in laboratory meetings, research seminars, and interdisciplinary scientific discussions.

***Recognized** for professionalism, strong work ethic, and effective collaboration within an international research environment at OSU-CHS.

PUBLICATIONS

- **Unlocking dexmedetomidine's therapeutic potential in multiple sclerosis: Dual modulation of PI3K/Akt/BDNF and TLR4/NF-κB pathways in EAE rats.**
Salem MA, Rabie MA, El Maraghy NN, El-Said YAM, El Sayed NS, Mansour SM. *European Journal of Pharmacology*. 2025;1008:178365. DOI: 10.1016/j.ejphar.2025.178365.
 - **Tadalafil and bergapten mitigate STZ-induced sporadic Alzheimer's disease in mice via modulation of neuroinflammation, PI3K/Akt, Wnt/β-catenin, and AMPK/mTOR pathways.**
Salem MA, Budzynska B, Kowalczyk J, El Sayed NS, Mansour SM. *Toxicology and Applied Pharmacology*. 2021;115697. DOI: 10.1016/j.taap.2021.115697. PMID:34428446.
 - * **Award: Best Research Award, Department of Pharmacology and Toxicology, FUE Annual Scientific Conference, June 2022.**
 - **Tadalafil and bergapten mitigate STZ-induced sporadic Alzheimer's disease in mice.**
Salem MA, Budzynska B, Kowalczyk J, El Sayed NS, Mansour SM. **Poster Presentation** in “**5th Annual Arab International Pharmacy Conference** – Cairo, Egypt | March 2021”
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ACADEMIC & PROFESSIONAL SERVICE

- **Head, Occupational Safety and Health Committee**, Faculty of Pharmacy, Future University in Egypt.
- **Member, Vice Deanship for Community Service and Environmental Development**, Faculty of Pharmacy, Future University in Egypt.
- **Member, Academic Advising and Student Registration Committee** – managed undergraduate academic registration processes.
- **Member, Quality Assurance Unit** (Internal Audit Committee) – contributed to institutional quality assurance processes and accreditation achievements (**ACPE and NAQAAE**).

- **Member, Organizing Committee – International Conference of Pharmaceutical Sciences** (4th, 5th, and 6th editions), contributing to planning and execution.
 - **Manuscript Reviewer**, Future Journal of Pharmaceutical Sciences.
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TECHNICAL SKILLS

- **In vivo models and animal handling**
 - **Molecular & cellular techniques:** Cell culture, ELISA, Western blot, and qRT-PCR.
 - **Histology:** tissue processing and histopathological preparation
 - **Data analysis:** GraphPad Prism, experimental design, statistical analysis
 - **Reference management:** Mendeley
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PROFESSIONAL DEVELOPMENT

- **Ethical & Regulatory Oversight of Clinical Research** | Online - Apr 2026.
 - **Occupational Safety and Health Committee Training** | National Institute for Occupational Safety and Health (NIOSH) - Apr 2026.
 - **Decoding Human Attachment: Where Pharmacology Meets Neuropsychology** | Faculty of Pharmacy, Future University in Egypt - Feb 2026.
 - **Industrial Fellowship in Vaccine Manufacturing** | Faculty of Pharmacy, Future University in Egypt - Feb 2026.
 - **Filling the New Template of the Course Report** | Faculty of Pharmacy, Future University in Egypt - Dec 2025.
 - **AI in Academia** | Faculty of Pharmacy, Future University in Egypt - Dec 2025.
 - **Time Management & Soft Skills** | Future University in Egypt, Cairo - Sep 2025.
 - **Molecular Biology & Bioinformatics Course** | Babirus BIO Lab - Feb 2024.
 - **Learning Projects in Blended Learning Formats Workshop** | DAAD Kairo Akademie - 2022.
 - **Leading Teams Workshop** | DAAD Kairo Akademie - 2021.
 - **Proposal Writing for master's and PhD** | DAAD Kairo Akademie - 2021.
 - **Theory into Practice and Entrepreneurship Course** | Future University in Egypt - 2020.
 - **The Role of the Clinical Pharmacist in Treating Heart Disease** | Future University in Egypt - 2020.
 - **Understanding Medical Research Course** | Coursera (Yale University) - 2020.
 - **Pharmacogenomics Workshop** | Future University in Egypt - 2019.
 - **Research Ethics Workshop** | Future University in Egypt - 2019.
 - **Egyptian Knowledge Bank & EndNote Training Workshop** | Future University in Egypt - 2018.
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LANGUAGES

Arabic (Native) | English (Fluent)

REFERENCES

Available upon request.