

Name: Zahra Ali Kassem, Assistant professor of pharmaceutical chemistry
Ph.D.in Pharmaceutical chemistry (January 2022), Faculty of Pharmacy,
Beirut Arab University, entitled (Design, Synthesis and Molecular
Modelling of Pyrazolo[3,4-b]pyridine Derivatives as Potential Anticancer
Agents).

Education: M.Sc.in Pharmaceutical chemistry (January 2007), Faculty of Pharmacy,
Beirut Arab University, entitled (Synthesis of some Pyridine Derivatives
and Evaluation of their Antimicrobial Activities)

B.Sc. in Pharmaceutical Sciences, Faculty of Pharmacy, Beirut Arab
University, Beirut Lebanon.

Specialization Pharmaceutical Chemistry Sciences

Experience Dr. Zahra Ali Kassem is an Assistant Professor of Pharmaceutical Chemistry at the
Faculty of Pharmacy, BAU. She began her career in a community pharmacy and has over 17 years of
experience as a laboratory instructor in medicinal and organic chemistry. Her expertise lies in the
identification and testing of chemical substances using various techniques such as FTIR, HPLC, and
GCMS, as well as computer-aided design (CADD) tools like MOE and Autodock 2. Since 2015, Dr. Zahra
has been responsible for developing and teaching courses in medicinal and pharmaceutical organic
chemistry. Dr. Zahra has supervised and judged many PharmD theses and she is a member of OPL.

Research Activities: Design and synthesis of new pharmaceutical compounds, testing their binding
types as anticancer and anti-inflammatory on different receptors through simulation, in addition to
their effects on different cell lines after completing their chemical testing using infrared (IR) and
nuclear magnetic resonance (NMR) techniques.

- 1- Discovery of pyrazolopyridine derivatives dually targeting inflammation and proliferation in
colorectal cancer cell lines: in-silico drug design approach, Kassem, Zahra; Bou Merhi,
Raghida; and Issa, Doaa (2021)
- 2- dz-bau2021-14n as novel pyrazolopyridine nanocrystals: appraisal of anticancer activity
against hct-116 and ht-29 colorectal cancer cell lines, Kassem, Zahra; Abou Staiteieh,
Soumaiah; Nasr, Jamal; Mneimneh, Amina; Youssef, Ali; Darwiche, Nadine; Issa, Doaa; Bou
Merhi, Raghida; and Mehanna, Mohammed (2021)
- 3- Efficient One-Step Synthesis of Substituted-pyrazolo[3,4-b]pyridine from Substituted-3-
cyano-2(1H)-pyridone, Yasser S. Abdel-Ghany^{*,a}, Aly A. Hazzaa^a, Mohamad M. Abdul Ghani^b
and Zahra A. Kassem^c, (2008)
- 4- Synthesis and Antimicrobial Evaluation of Thiophene-Linked Nitrogen Containing
Heterocycles S Abdel-Ghany, AA Hazzaa, MMA Ghani, AA Bekhit, ZA Kassem
ALEXANDRIA JOURNAL OF PHARMACEUTICAL SCIENCES 22 (1), 23
- 5- Design, synthesis and molecular docking of Pyrazolo[3,4-b]pyridine derivatives as potential
CDK2 pathway inhibitors in colorectal cancer cells, Doaa A.E. Issa, Zahra A. Kassem,
Soumaiah Abou Staiteieh, Ali Youssef, Jamal Nasr, Nadine Darwiche, Raghida Abou
Merhi,(2025)

Conferences

- 1- Powering reliable industrial analysis with advanced C-IC workflows May 29, 2026
- 2- From emerging threats to diagnostic breakthroughs: A strategic look ahead in AMR May 27,
2026

Workshops

- A- Attending a Jordanian Artificial Intelligence Season spring and summer 2026:
1- Innovations and Breakthroughs in the Field of Artificial Intelligence

- 2- Fundamentals of Artificial Intelligence and Smart Applications
 - 3- The Role of Artificial Intelligence in Professional Life and Career Development
 - 4- Applications of Artificial Intelligence in Research, Analysis, and Smart Technologies
 - 5- Developing Marketing Plans with the Support of Artificial Intelligence
 - 6- Learning English Through Artificial Intelligence Tools
 - 7- Video Production and Content Creation Using Artificial Intelligence
 - 8- Creating Presentations and Building a Smart Digital Identity
 - 9- Artificial Intelligence in Medical Engineering and Intelligent Diagnostic Systems
 - B- Attending the roundtable organized by the University Pedagogical Mission of USJ, in collaboration with the Lebanese National Commission for UNESCO and with the support of the UNESCO Regional Office, as part of the program entitled "*AI for Skills Development in Higher Education.*"
- Roundtable "*Rethinking the Design of Students' Research Work in Lebanese Universities in the Era of AI*" 29 April 2026

Supervision of theses

Pharm D students' supervision:

- 1- Exploring Self-medication Practices for Psychotropic drugs in Lebanon Post the Multifaceted Crisis 2024-2025
- 2- Exploring Self-medication Practices for Anti-obesity Medications in Lebanon Post the Multifaceted Crisis
- 3- Exploring Self-medication Practices for Proton Pump Inhibitors in Lebanon Post the Multifaceted Crisis
- 4- Exploring Self-medication Practices for Psychotropic drugs in Lebanon Post the Multifaceted Crisis
- 5- Exploring Self-medication Practices for Aspirin in Lebanon Post the Multifaceted Crisis
- 6- Prevalence and Predictors of Hypnotic Medication Use Following the 2023-2025 War-Related Exposure in Lebanon: A Cross-Sectional Study

Others

As a junior research team supervisor, I oversaw a group of 10 students participating in a research project designed to support and motivate individuals interested in pharmaceutical and medicinal chemistry. The project focused on training students to independently synthesize chemical compounds, conduct identification tests using specialized techniques such as thin-layer chromatography (TLC) and infrared spectroscopy (IR), and gain exposure to computer-aided drug design methods under my supervision. The seminar lasted five months, with sessions conducted three days per week under my guidance. Our well-equipped laboratories provided an excellent environment for students to collaborate effectively as a productive research team, enabling them to combine their knowledge and practical skills to achieve meaningful results and address the research objectives successfully.