

# Curriculum vitae

## Personal

**Name:** Omar Mohamad Hashem  
**Nationality:** Syrian Arab Republic  
**Marital Status:** Single  
**Date of birth:** 30<sup>th</sup> August 1999  
**Place of birth:** Ras Al-Khaimah, UAE  
**Languages** Arabic (Native) English (Advanced)  
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## Professional Summary

Highly motivated and detail-oriented Research Assistant with a focus on drug design and discovery. Equipped with a strong academic background and 2 years of experience in conducting groundbreaking research within a research institute of medical and health sciences. Committed to advancing healthcare by identifying novel therapeutic solutions and optimizing drug efficacy. As a diligent and results-driven professional, I seek to join a dynamic team of experts where I can apply my skills in innovative drug development and contribute to pioneering advancements in medicine. With a passion for excellence, I aim to play a pivotal role in shaping the future of pharmaceutical discovery and improving patients' lives.

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## Education

<b>2022-2024</b>	<b>University of Sharjah, Sharjah, UAE.</b> M.Sc. in Pharmaceutical Sciences Medicinal Chemistry/Organic Synthesis <b>Thesis title:</b> <u>“Design and synthesis of fused heterocyclic derivatives with potential anticancer or antimicrobial activities”</u> Main supervisor: Prof. Mohammed I. El-Gamal.
<b>GPA</b>	<b>3.98/4 (Distinction)</b>
<b>2017–2022</b>	<b>University of Sharjah, Sharjah, UAE.</b> B.Sc. in Pharmacy
<b>GPA</b>	<b>3.95/4 (Distinction with first-class honors)</b>
<b>2015-2017</b>	<b>Al Jawdah School, Ras Al-Khaimah, UAE.</b> High School Degree
<b>GPA</b>	<b>97.7%</b>

## Work Experience

### **Full-time Research Assistant at the University of Sharjah (2022 - Present)**

- Drug design and discovery lab, Research Institute of Medical and Health Sciences.
- Retrosynthesis and organic reaction optimization and synthesis.
- Synthesized, purified, and characterized organic compounds (small and large scale).
- Compound purification using normal column chromatography and a Puriflash machine.
- Contributed to **(no. of publications)** journal publications and published in reputable journals.
- Contributed to reviewing number of articles in the International Journal of Biological Macromolecules
- Prepared chemical samples for biological testing against different enzymes.
- Supervised and mentored newly joined research assistants and undergraduate students

2022 - Present

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**Vice President** of the SSCP “Scientific Society at College of Pharmacy” (2020 – 2021)

## Publications

1. Hashem O, Zaib S, Zaraei SO, Javed H, Kedia RA, Anbar HS, et al. Design and discovery of urease and Helicobacter pylori inhibitors based on benzofuran/benzothiophene-sulfonate and sulfamate scaffolds for the treatment of ureolytic bacterial infections. International Journal of Biological Macromolecules. 2024 Jun;271:132502.
2. Hashem O, Shahin AI, Al Hindawi MA, Fageeri MF, Al-Sbbagh SA, Tarazi H, et al. An overview of RAF kinases and their inhibitors (2019–2023). Eur J Med Chem. 2024 Sep;275:116631.
3. Mustafa EM, Shahin AI, Alrashed AS, Bahaaddin AH, Alajmi AA, Hashem O, et al. An overview of the latest outlook of sulfamate derivatives as anticancer candidates (2020–2024). Arch Pharm (Weinheim). 2024 Jun 29;e2400331.

## Professional Skills

### Teaching skills

- **Giving private tutoring** in medicinal chemistry and biochemistry courses for **all undergraduate** students (2018-present).
- **Introducing** our master and undergraduate students to our work in our drug design and discovery research lab (2022-2024).
- **Gave research and scientific instructions** to **Dubai police** about our drug design and discovery research lab (2023).
- **Gave research and scientific instructions** to **PhD students** about our drug design and discovery research lab (2023).
- **Invigilating** students on their Quizzes, Midterm, and Final exams (2022-present).

### Research skills

#### 1. **Laboratory Operating Machines**

- Ultra-performance flash purification (Puriflash)

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- Microwave Synthesizer machine
- Rotary evaporator
- Stuart melting point apparatus
- Genevac sample evaporator
- Telstar LyoQuest (Freeze dryer)
- Vacuum Desiccator
- Buchner filtration (suction filtration)
- Sonication machine

## 2. Purification techniques

- Dry and wet-load column chromatography
- Ultra-performance flash purification (Puriflash)
- Filter-column chromatography
- Liquid-liquid extraction & solid phase extraction
- Preparative Thin Layer Chromatography (TLC)
- Recrystallization, Vacuum-filtration, DCM-chasing

## 3. Analytical techniques

- Visualizing TLC plates via:
  - Ultraviolet (UV) light
  - Iodine staining
  - p-Anisaldehyde
- **Liquid Chromatography-Mass Spectrometry (LC-MS)** instrument from **Waters** company for separation, and analysis of mass samples of organic compounds.
- Preparing NMR sample, reading and analyzing NMR spectral data (both Proton  $^1\text{H}$  and Carbon  $^{13}\text{C}$ ) using **Nuclear magnetic resonance (NMR)** instrument from **Bruker** company.
- Infrared spectroscopy (IR) for functional group identification.
- Worked in the Drug Design and Discovery lab on multiple research projects (2022-present).

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- Design and synthesis of different nuclear scaffolds and their derivatives.
- Interpreted results of the **National Cancer Institute (NCI)** against 60 cancer cell line panels to identify the anticancer activity of organic compounds.
- Analyzed the **structure activity relationship (SAR)** of a series of chemical compounds to outline conclusions.

## 4. Computer Skills

- **Microsoft Office** applications (Word, PowerPoint, Excel).
- **BioRender** to illustrate figures and graphical abstracts.
- **SciFinder** to check, plan, and optimize reaction synthesis.
- **ChemDraw** to draw, analyze, and present chemical structures in reaction schemes.
- **Mestre nova** to report and interpret the NMR spectrum of different chemical compounds in conducting research.
- **Zotero** software to add references to research papers.

## 5. Organizing and teamwork skills

## 6. Excellent communicator

## Media Appearances

**Interview Title:** Synthesizing compounds to target *H. pylori* through inhibition of urease enzyme

**Medium:** Maraya Website

**Date:** October 14, 2024

**Link:** <https://maraya.sba.net.ae/episode/113479?continue=1150>

**Description:** Discussed my research project on synthesizing compounds aimed at inhibiting the urease enzyme to target *Helicobacter pylori*.

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## Awards

- Second place award in the **International Conference of Pharmacy and Medicine (ICPM)** competition between UAE universities (7<sup>th</sup>-9<sup>th</sup> April 2021).
- Certificate of reviewing an article in the **International Journal of Biological Macromolecules** (August 2024).
- 10 years **Golden Visa** holder (2022 until 2032).
- Second place award in the **International Conference of Pharmacy and Medicine (ICPM)** competition between UAE universities (7<sup>th</sup>-9<sup>th</sup> April 2021).

## Events organizations

Organizer at the World Cancer Awareness Day (Nov 2021).

Organizer at the World Diabetes Awareness Day (Nov 2021).

Organizer at the Flu Vaccine Awareness Day (Nov 2021).

Organizer at the World Pharmacists Day Celebration & White Coat Ceremony (Oct 2021).

Organizer at the 4<sup>th</sup> Future Pharmacists Day (April 2021).

## Activities & certificates of attendance

1. Delivered an **oral presentation** for the Journal Club presentation, entitled: “**Targeting Gatekeeper Mutations for Kinase Drug Discovery**” at the Research Institute of Medical and Health Sciences (28<sup>th</sup> Feb 2024).
2. Participated in “Poster Competition” at the “10<sup>th</sup> Emirati German Congress in Medicine, Dentistry, and Pharmacy” at Al Dhaid University under the title of “**Anti-urease and anti-helicobacter activities of benzofuran/benzothiophene-based sulfonate and sulfamate derivatives**” (6<sup>th</sup> Feb 2024).
3. Attended online workshop “Time management and organization: solution strategies” (4<sup>th</sup> Feb 2024).

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4. Attended online workshop “Article publication: From submission to acceptance (Part 1 &2)” (16<sup>th</sup> & 18<sup>th</sup> Jan 2024).
5. Participated in “Poster and Booth competition” in “Gateway to Research-2024” at the University of Sharjah under the title of **“Anti-urease and anti-helicobacter activities of benzofuran/benzothiophene-based sulfonate and sulfamate derivatives”** (10<sup>th</sup> Jan 2024).
6. Participated in “Poster Competition” at the “International Conference of Pharmacy Students” at the University of Sharjah under the title of **“Anti-urease and anti-helicobacter activities of benzofuran/benzothiophene-based sulfonate and sulfamate derivatives”** (20<sup>th</sup> Mar 2023).
7. Organizer in the “Flu Vaccine Awareness Day” at the University of Sharjah (Nov 2021).
8. Organizer in the “World Diabetes Awareness Day” at the University of Sharjah (Nov 2021).
9. Organizer in the “World Cancer Awareness Day” at the University of Sharjah (Nov 2021).
10. Organizer in the “World Pharmacist Day Celebration & White Coat Ceremony” at the University of Sharjah (Oct-2021).
11. Completed the following course “COVID-19 SMART” by Cleveland Clinic Abu Dhabi.
12. Attended online workshop about Library Resources (Sep-2021).
13. Participated in “Poster Competition” at the “World Pharmacist Day Celebration & White Coat Ceremony” at the University of Sharjah (Oct-2021).
14. “Writing your first research paper” workshop (Aug 2021).
15. Attended the “Pharmacovigilance Workshop” at the University of Sharjah held by Boehringer Ingelheim (11<sup>th</sup> April 2021).
16. Organizer in the “4<sup>th</sup> Future Pharmacist Day” at the University of Sharjah (April 2021).
17. **Winning 2<sup>nd</sup> Place at Universities Competition 5<sup>th</sup> ICPM “5<sup>th</sup> International Conference on Pharmacy & Medicine”** in Sharjah research technology and innovation park (7<sup>th</sup>–9<sup>th</sup> April-2021).
18. Attended the 4<sup>th</sup> Future Pharmacists’ Day Celebration (April-2021).
19. Participated in “Booth Competition” at the “ 5<sup>th</sup> International Conference on Pharmacy & Medicine (ICPM)” Sharjah research technology and innovation park (7<sup>th</sup>–9<sup>th</sup> April 2021).
20. Attended a Workshop Titled: “Medical Insurance for Pharmacists” (March 2021).

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21. Presented a lecture to University of Sharjah students about “**Is 2021 the year of vaccination?**” by Altinbas University Medicine Club (AUMC) (24<sup>th</sup> Jan 2021).
22. Attended the “Leadership Skills Workshop” (21<sup>st</sup> Jan 2021).
23. Attended a Webinar Workshop Titled: “Diarrhea & Constipation Management” (Jan 2021).
24. Attended a webinar workshop Titled: “Pain Management” at the University of Sharjah (Nov 2020).
25. Attended the “World Diabetes Day” Celebration at the University of Sharjah (19<sup>th</sup> Nov 2020).
26. Attended the “EPS World Antimicrobial Awareness Week (WAAW) Live Webinar” a live online webinar, in Dubai, United Arab Emirates (18<sup>th</sup> Nov 2020).
27. Attended the “Volunteering in UAE Course” (8<sup>th</sup> Oct 2020).
28. Attended the basic first aid training course held at the University of Sharjah – Online training by Emirates Red Crescent (01-Oct-2020).
29. Attended the webinar on “The Behavioral & Psychological Symptoms of Dementia” in Dubai, United Arab Emirates (20<sup>th</sup> June 2020).
30. Attended the webinar on “COVID-19 & The Digitalization of Medicine” in Dubai, United Arab Emirates (19<sup>th</sup> June 2020).
31. Attended the Duphat webinar course “Supply Chain Management” in Dubai, United Arab Emirates (19<sup>th</sup> June 2020).
32. Attended the Duphat webinar course Titled: “Health Economics – Health Technology Assessment (HTA)” in Dubai, United Arab Emirates (18<sup>th</sup> June 2020).
33. Attended the Duphat webinar course “Health Economics – Innovative Contracting During Financial Constraints Pay for Performance Concept” in Dubai, United Arab Emirates (17<sup>th</sup> June 2020).
34. Attended the Duphat webinar “How to Prepare your Health Care Institution for COVID-19” in Dubai, United Arab Emirates (7<sup>th</sup> June 2020).
35. Attended the Duphat webinar on “COVID-19: Management of Patients with Special Cases” in Dubai, United Arab Emirates (2<sup>nd</sup> June 2020).
36. Attended the Duphat webinar course “COVID-19: Treatment and Vaccine” in Dubai, United Arab Emirates (30<sup>th</sup> May 2020).

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37. Attended the Duphat webinar course “COVID-19: Understanding the Outbreak” in Dubai, United Arab Emirates (28<sup>th</sup> May 2020).
38. Completed the following course “Let’s Break the Chain of COVID-19 Infection” in MBRU “MOHAMMED BIN RASHED UNIVERSITY OF MEDICINE AND HEALTH SCIENCES” (28<sup>th</sup> March 2020).
39. Attended “Life and Studying in Japan Workshop” (Feb 2020).
40. Attended the virtual webinar “Reaching Therapeutic Goals in Type 2 Diabetes: New Options” (27<sup>th</sup> Jan 2020).
41. Participated in the “World Diabetes Day Walkathon” (14<sup>th</sup> Nov 2018).

## **Training**

- **Al Taj Pharmacy**, Sharjah (10/04/2022- 05/05/2022)
- **American Hospital**, Dubai (13/03/2022- 07/04/2022)
- **Al Kuwait Hospital**, Sharjah (13/02/2022- 10/03/2022)
- **Aster Pharmacy**, Sharjah (16/01/2022- 10/02/2022)

## **REFEREES**

- **Prof. Mohamed El-Gamal**

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- **Prof. Mohammad Harb**

Professor, Medicinal Chemistry, University of Sharjah, Sharjah, United Arab Emirates. Email: [msemreen@sharjah.ac.ae](mailto:msemreen@sharjah.ac.ae)

- **Dr. Hasan Al-Niss**

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