

Salma A. Abubakar

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Education

New York University, Graduate School of Arts and Sciences

PhD, Chemistry, GPA: 3.72/4.00

- Global Ph.D. Fellowship (top 4% of applicants)

Abu Dhabi, UAE
Fall 2024

United Arab Emirates University, College of Science

BSc with honors, Chemistry, GPA: 3.98/4.00

- Ful Scholarship for outstanding high school students

Abu Dhabi, UAE
May 2018

Research Experience

Trabolsi Research Group | New York University, Abu Dhabi

Abu Dhabi, UAE
2019-2024

Graduate Research Assistant

- Developed, synthesized, and analyzed covalent organic frameworks targeted for environmental remedy, particularly removal of ultralow traces of heavy metals from water
- Designed unique redox-responsive covalent organic frameworks with integrated mechanically interlocked units, and investigated its structural, mechanical, and photoelectrochemical properties
- Expertise in operating several spectroscopic and spectrometric techniques for research studies (PXRD, FTIR, SEM, TEM, ICP-MS, Raman spectroscopy, UV-Vis spectroscopy, and EPR spectroscopy)

Smart Materials Lab (SML) | New York University, Abu Dhabi

Abu Dhabi, UAE
2018

Research Intern

- Synthesized novel dioxetanes and rubrene derivatives and examined their structural characteristics and examined their fluorescence properties

Center for Membranes and Advanced Water Technology (CMAT) | Masdar Institute

Abu Dhabi, UAE
2017

Undergraduate Research Intern

- Explored the role of membrane technologies in water treatment and their implementation, particularly in the Gulf area
- Designed and fabricated polyethersulfone-based hollow fiber membranes, and assessed their efficiency in water desalination, in addition to evaluating membrane fouling

Thiemann's Research Lab | United Arab Emirates University

Abu Dhabi, UAE
2016-2017

Undergraduate Research Assistant

- Synthesized and characterized novel polymeric membranes targeted towards lead ion detection in grey water
- Utilizing the designed membranes to constructed solid-contact ion selective electrodes and systematically investigated their sensitivity and selectivity to lead ion while using PicoLog software for monitoring

Leadership and Teamwork

Graduate Student Council (GSC) | New York University, Abu Dhabi

Abu Dhabi, UAE
2022-2023

Representative for 1st year students

- Provided support and guidance to 10 graduate students from the science and engineering departments during their first 2 years with regards to the academic program requirements and challenges
- Organized social and academic events for the graduate students, such as council meetings and social gatherings, which more than 30 graduate students attended

Sheikh Mohamed bin Zayed Scholarship | New York University, Abu Dhabi

Abu Dhabi, UAE
2017- 2018

Scholar: U.S. Foreign Policy Class

- Awarded a one-year scholarship as one of the top 24 undergraduate students across all of the UAE's governmental universities
- Participated in and successfully completed specialized courses in foreign policy, leadership development
- Actively attended extensive training in public speaking skills, fundamentals of debate, critical thinking and Persuasive writing

Publications

- **Abubakar, S.**, et al., Enhanced Removal of Ultratrace Levels of Gold from Wastewater Using Sulfur-Rich Covalent Organic Frameworks. *Acs Appl Mater Inter.* **2024**, xx(xx), xxx-xxx. (Journal Impact Factor: 9.5)
- Skorjanc, T.;Shetty, D.;Gandara, F.;Pascal, S.;Naleem, N.;**Abubakar, S.**;Ali, L.;Mohammed, A. K.;Raya, J.;Kirmizialtin, S.;Siri, O.;Trabolsi, A. Covalent Organic Framework Based on Azacalix[4]Arene for the Efficient Capture of Dialysis Waste Products. *Acs Applied Materials & Interfaces*, **2022**, 14(34), 39293-39298. (Journal Impact Factor: 10.383)
- Das, G.;Skorjanc, T.;Prakasam, T.;Garai, B.;**Abubakar, S.**;Zalch, C. S.;Gandara, F.;Pasricha, R.;Sharma, S. K.;Varghese, S.;Jagannathan, R.;Olson, M. A.;Trabolsi, A. Hydrophobicity Tuning in Isostructural Urchin-Shaped Covalent Organic Framework Nanoparticles by Pore Surface Engineering for Oil-Water Separation. *Acs Applied Nano Materials*, **2022**. (Journal Impact Factor: 5.097)
- **Abubakar, S.**;Skorjanc, T.;Shetty, D.;Trabolsi, A. Porous Polycalix[N]Arenes as Environmental Pollutant Removers. *Acs Applied Materials & Interfaces*, **2021**, 13(13), 14802-14815. (Journal Impact Factor: 10.383)

Awards and Honors

The 18th International Conference of the Union of Arab Chemists

Key speaker award

RAK, UAE
2017

- Presentation title: Development of new ion-selective electrodes for the determination of lead (Pb²⁺) in aqueous solution.

Environmental and Material Science Symposium

Best research poster

Abu Dhabi, UAE
2017

- Poster title: Novel bis-Schiff bases as potential ionophores for metal ion-selective electrodes

United Arab Emirates University's Dean's List

Honoré

Abu Dhabi, UAE
2017

- Awarded as one of the 15 elite students in the college of science

Conference Participations

The International Symposium on Porous Organic Polymers & the KAUST Workshop for Women in Science and Engineering (POPs & WISE) | King Abdullah University of Science and Technology

Jeddah, KSA
2024

Poster presentation

- Poster title: The Effective Removal of Gold from Water Via a Functionalized Covalent Organic Framework

The American Chemical Society Regional Middle East and Africa Conference (ACS-MEA) | New York University, Abu Dhabi

Abu Dhabi, UAE
2024

Poster presentation

- Poster title: Sulfur-rich Covalent Organic Framework for Efficient Gold Capturing

The 7th Annual Graduate & Postdoctoral Research Showcase | New York University, Abu Dhabi

Abu Dhabi, UAE
2023

Poster presentation

- Poster title: Sulfur-rich Covalent Organic Framework for Efficient Gold Capturing

The 13th Annual International Workshop on Advanced Materials (IWAM)

Abu Dhabi, UAE
2021

Poster presentation

- Poster title: Engineering Polyrotaxanated Covalent Organic Frameworks Using Supramolecular Chemistry

The 5th Undergraduate Research Competition | Abu Dhabi University

Abu Dhabi, UAE
2017

Oral presentation

- Talk title: A Prototype System for Online Monitoring and Removal of Lead from Wastewater

The 18th International Conference of the Union of Arab Chemists

Abu Dhabi, UAE
2017

Oral presentation

- Talk Title: Development of new ion-selective electrodes for the determination of lead in aqueous solution

The Environmental and Material Science Symposium | Khalifa University

Abu Dhabi, UAE
2017

Poster presentation

- Poster title: Novel bis-Schiff Bases as Potential Ionophores for Metal Ion-Selective Electrodes

Skills and Interests

- **Computer:** Microsoft Office, basic C++ programming, Adobe Illustrator
- **Soft skills:** Time management, team work, data analysis
- **Interests:** reading, painting, cycling
- **Languages:** English, Arabic, Somali (all fluent)