

# 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

*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)

Abu Dhabi, UAE  
2019-2024

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

*Research Intern*

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

Abu Dhabi, UAE  
2018

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

*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

Abu Dhabi, UAE  
2017

### Thiemann's Research Lab | United Arab Emirates University

*Undergraduate Research Assistant*

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

Abu Dhabi, UAE  
2016-2017

## Leadership and Teamwork

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

*Representative for 1<sup>st</sup> 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

Abu Dhabi, UAE  
2022-2023

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

*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

Abu Dhabi, UAE  
2017- 2018

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## 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)

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## Awards and Honors

### The 18<sup>th</sup> International Conference of the Union of Arab Chemists

#### Key speaker award

- Presentation title: Development of new ion-selective electrodes for the determination of lead (Pb<sup>2+</sup>) in aqueous solution.

RAK, UAE  
2017

### Environmental and Material Science Symposium

#### Best research poster

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

Abu Dhabi, UAE  
2017

### United Arab Emirates University's Dean's List

#### Honoré

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

Abu Dhabi, UAE  
2017

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## 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

#### Poster presentation

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

Jeddah, KSA  
2024

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

#### Poster presentation

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

Abu Dhabi, UAE  
2024

### The 7<sup>th</sup> Annual Graduate & Postdoctoral Research Showcase | New York University, Abu Dhabi

#### Poster presentation

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

Abu Dhabi, UAE  
2023

### The 13<sup>th</sup> Annual International Workshop on Advanced Materials (IWAM)

#### Poster presentation

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

Abu Dhabi, UAE  
2021

### The 5<sup>th</sup> Undergraduate Research Competition | Abu Dhabi University

#### Oral presentation

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

Abu Dhabi, UAE  
2017

### The 18<sup>th</sup> International Conference of the Union of Arab Chemists

#### Oral presentation

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

Abu Dhabi, UAE  
2017

### The Environmental and Material Science Symposium | Khalifa University

#### Poster presentation

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

Abu Dhabi, UAE  
2017

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## 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)